



CITY OF BLOOMINGTON UTILITIES  
BLOOMINGTON, INDIANA

PROJECT MANUAL FOR  
**FULLERTON PIKE – PHASE III**  
**WATER MAIN RELOCATION**

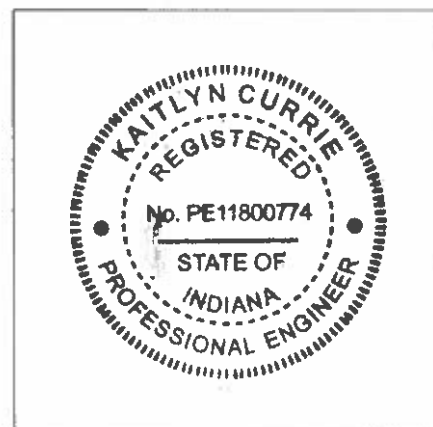
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2/23/2023  
(Date)



**PROJECT MANUAL**  
**CITY OF BLOOMINGTON UTILITIES**  
**FULLERTON PIKE – PHASE III**  
**WATER MAIN RELOCATION**  
**BLOOMINGTON, INDIANA**

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**DIVISION 00**

**PROCUREMENT AND CONTRACTING REQUIREMENTS**

SECTION 00 11 13  
ADVERTISEMENT FOR BIDS

FULLERTON PIKE – PHASE III WATER MAIN RELOCATION

NOTICE IS HEREBY GIVEN THAT THE UTILITIES SERVICE BOARD OF THE CITY OF BLOOMINGTON, INDIANA WILL RECEIVE SEALED BIDS FOR THE BELOW-DESCRIBED WORK AT THE LOCATION INDICATED.

Work includes but is not limited to, the relocation of water main. This project is a result of a road reconstruction project involving a round-about installation. As a result of the road reconstruction, relocation of existing water utilities are required. The relocations shall include approximately 500 lineal feet of 12-inch water main, 940 lineal feet of 8-inch water main, and 55 lineal feet of 6-inch water main as well as reinstating all existing services, and all other related work and appurtenances necessary to complete the work shown on the Drawings and described in the Specifications.

Sealed bids shall be received by the Utilities Department, at 600 E. Miller Drive, Bloomington, Indiana, 47401, at or before 4:45 PM local time on March 27, 2023. Any bids received after the designated time will be returned unopened. Bids will be publicly opened and read aloud by the Utilities Service Board which begins at 5:00 PM local time on March 27, 2023. The meeting will be held at the service center board room located at 600 E. Miller Drive. Bids will be reviewed after the meeting and the award may be made at the following regular Utilities Service Board meeting on April 10, 2023 or a subsequent meeting of the Board.

All Bids must be in accordance with the Bidding Documents contained in the project documents on file with the Director of Utilites, City of Bloomington, 600 E. Miller Dr. Bloomington, Indiana 47401.

Complete digital project bidding documents are available at <https://bloomington.in.gov/utilities/bids>. You may download the digital plan and specification documents from the website. Paper sets of project documents will also be made available for inspection only at the City of Bloomington Utilities office.

Neither the Owner or Engineer has any responsibility for the accuracy, completeness or sufficiency of any bid documents obtained from any other source other than the sources listed herein. Obtaining these documents from any other source(s) may result in obtaining incomplete and inaccurate information. Obtaining these documents from any other source other than directly from the sources listed herein may also result in failure to receive addenda, corrections, or other revisions to the Bidding Documents that may be issued.

A mandatory virtual pre-bid conference will be held prior to the Bid opening on March 13, 2023 at 10:00 a.m to familiarize Bidders with this Project. Bidders can join via Zoom by using the link <https://structurepoint.zoom.us/j/82067570194> or by calling in at 1-669-444-9171 Meeting ID: 820 6757 0194. The meeting is expected to review a number of topics and include some screen sharing.

Each Bidder shall file with his or her sealed bid:

- (1) Questionnaire Form 96 of the State Board of Accounts; including a properly executed Non-collusion Affidavit as required by the laws of the State of Indiana;
- (2) a cashier's check or certified check drawn on an acceptable bank or a Bid bond equal to five (5) percent of the total amount of bid;
- (3) a properly executed Trench Safety Systems Affidavit, if project may require creation of a trench of at least five (5) feet in depth;
- (4) a properly executed Employee Drug Testing Program Affidavit for a public works project estimated to cost at least \$150,000;
- (5) a copy of the bidder's written plan for an employee drug testing program to test the employees of the bidder for drugs;
- (6) a responsible bidder affidavit form;
- (7) E-Verify affidavit form;
- (8) Certification from the State evidencing of Bidder's authority and qualification to do business in the State of Indiana.
- (9) Living wage Ordinance certification

For bids of \$100,000.00 or more, the successful bidder shall furnish performance and payment bonds for one hundred percent (100%) of the contract amount prior to the execution of the contract, and said bonds shall remain in effect for a period of one (1) year after final acceptance of the work.

Each Bidder must ensure that to the greatest extent feasible, opportunities for training and employment should be given to lower income residents of the project area and purchases and/or contracts for work in connection with the project should be awarded to small business concerns which are located in, or owned in substantial part, by persons residing in the area of the project.

The City of Bloomington is an equal opportunity employer, and Bidder shall meet all requirements for equal employment under Title VII of the 1964 Civil Rights Act as amended and under the Bloomington Human Rights Ordinance, as amended.

Each Bidder for proposals over \$10,000.00 shall submit and have approved by the City of Bloomington Contract Compliance Officer, Audrey Brittingham, his/her written Affirmative Action Plan at least twenty-four (24) hours prior to the deadline for submission of bid. Each Bidder must insure that all employees and applicants for employment are not discriminated against because of race, religion, color, sex, national origin, ancestry, disability, sexual orientation, gender identity, veteran status or housing status. All the protected classes must be included in your Affirmative Action Plan for it to be acceptable. In addition to other requirements, your plan MUST include a

workforce breakdown, an internal grievance procedure, a non-retaliation statement, designation of a person by name or position who is responsible for implementation of the Plan, applicability to both applicants and employees, recruitment of minorities, equal access to training programs, and an explanation of your method of communicating the operations of your affirmative action plan to employees and prospective applicants. For Affirmative Action Plan information and approval only, contact Audrey Brittingham, Contract Compliance Officer, at (812) 349-3429, 8:00 a.m. to 5:00 p.m. Monday through Friday. All other project inquiries should be directed to Jane Fleig, City of Bloomington Utilities Engineer, at (812) 349-3631 or [fleigj@bloomington.in.gov](mailto:fleigj@bloomington.in.gov).

In accordance with Indiana Code 4-13-18-5, each Contractor that submits a bid for a public works project that is estimated to cost \$150,000 or more shall submit with his/her bid a written plan for an employee drug testing program to test the employees of the Contractor and Subcontractors for drugs.

The Utility Service Board reserves the right to waive any informality and to accept or reject any or all bids submitted. Bids may be held by the Utility Service Board for a period not-to-exceed ninety (90) days from the date of the opening of Bids for the purpose of reviewing the Bids, investigating the qualifications of the Bidders prior to awarding the contract, and awarding the contract.

Utilities Service Board, City of Bloomington, Indiana

Amanda Burnham, President

END OF SECTION 00 11 13

ADVERTISEMENT FOR BIDS

SECTION 00 21 13  
INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01. Terms used in these Instructions to Bidders shall have the meanings assigned to them in the General Conditions and in the Supplementary Conditions. Additional terms used in these Instructions to Bidders shall have the meanings indicated below, which are applicable to both the singular and plural thereof.

- A. Bidder - The individual or entity who submits a Bid directly to Owner.
- B. Successful Bidder - The lowest qualified, responsible, and responsive Bidder to whom Owner (on the basis of Owner's evaluation as herein provided) makes an award.

ARTICLE 2 - QUALIFICATIONS OF BIDDERS

2.01. Each Bid must contain evidence of Bidder's authority and qualification to do business in the State of Indiana. Evidence shall consist of a certification from the state in accordance with IC 4-13.6-4 or IC 8-23-10 if the value of the contract is greater than \$300,000.

2.02. The City of Bloomington is an equal opportunity employer, and Bidder shall meet all requirements for equal employment under Title VII of the 1964 Civil Rights Act as amended and under the Bloomington Human Rights Ordinance, as amended.

2.03. A Contract for Work under this Bid shall obligate the Contractor and Subcontractors not to discriminate in employment practices. Each Bidder for proposals over \$10,000.00 shall submit and have approved by the City of Bloomington Contract Compliance Officer, Barbara McKinney, his/her written Affirmative Action Plan at least twenty-four (24) hours prior to the deadline for submission of bid. Bids received that do not have an approved Affirmative Action Plan may be returned unopened. Each Bidder must insure that all employees and applicants for employment are not discriminated against because of race, religion, color, sex, national origin, ancestry, disability, sexual orientation, gender identity, veteran status or housing status. All the protected classes must be included in your Affirmative Action Plan for it to be acceptable. In addition to other requirements, your plan MUST include a workforce breakdown, an internal grievance procedure, a non-retaliation statement, designation of a person by name or position who is responsible for implementation of the Plan, applicability to both applicants and employees, recruitment of minorities, equal access to training programs, and an explanation of your method of communicating the operations of your affirmative action plan to employees and prospective applicants. For Affirmative Action Plan information and approval, contact Barbara McKinney, Contract Compliance Officer, at (812) 349-3429, 8:00 a.m. to 5:00 p.m. Monday through Friday.

2.04. A Contract for Work under this Bid shall obligate the Contractor and Subcontractors to comply with the City of Bloomington Living Wage Ordinance.

2.05. A Contract for Work under this Bid shall obligate the Contractor and Subcontractors to comply with the City of Bloomington Responsible Bidder Ordinance.

2.06. In accordance with Indiana Code 4-13-18-5, each Contractor that submits a bid for a public works project that is estimated to cost \$150,000 or more shall submit with his/her bid a written plan for an employee drug testing program to test the employees of the Contractor and Subcontractors for drugs.

2.07. All bidders seeking to do business with the City of Bloomington Utilities must enroll in, and verify, the work eligibility status of newly hired employees of the Contractor through the United States government's E-Verify program. A declaration form must be submitted with the bid documents.

2.08. In accordance with Indiana Code 36-1-12-20, if project may require creation of a trench of at least five (5) feet in depth, a City of Bloomington Trench Safety Compliance Affidavit must be executed.

2.09. To demonstrate Bidder's qualifications to perform the Work, Owner also requires Bidders to submit a performance record, giving a description, location and telephone numbers of contacts on similar projects constructed by the Bidder. Include in this list projects currently under contract, the approximate contract amount, and a percent of completion of each project, and a list of any contracts defaulted.

### ARTICLE 3 - COPIES OF BIDDING DOCUMENTS

3.01. The Bidding Documents, including Specifications, are on file for inspection at the City of Bloomington Utilities, 600 East Miller Drive, Bloomington, Indiana. Copies of any type will not be made available. Complete digital project bidding documents are available at <https://bloomington.in.gov/utilities/bids>. You may download the digital plan and specification documents from the website.

3.02. Complete sets of Bidding Documents must be used in preparing Bids; Owner and Engineer will assume no responsibility for errors or misrepresentations resulting from the use of incomplete sets of Bidding Documents.

3.03. Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

3.04. Neither Owner nor Engineer has any responsibility for the accuracy, completeness or sufficiency of any bid documents obtained from any source other than the source indicated in these documents. Obtaining these documents from any other source(s) may result in obtaining incomplete and inaccurate information. Obtaining these documents from any source other than directly from the source listed herein may also result in failure to receive any addenda, corrections, or other revisions to these documents that may be issued.

### ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS AND SITE

4.01. On request 24 hours in advance, Owner will provide each Bidder access to the Site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations. Arrangements for Site visits shall be made by contacting Jane Fleig, City of Bloomington Utilities Capital Projects Manager, at (812) 349-3631 or [fleigj@bloomington.in.gov](mailto:fleigj@bloomington.in.gov).

4.02. Project location:

On public right of way W. Gordon Pike from Wickens Street to Clearview Drive

4.03. It is the responsibility of each Bidder before submitting a Bid to:

- A. Examine and carefully study the Bidding Documents, including any Addenda and other related data identified in the Bidding Documents;
- B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. Become familiar with and satisfy Bidder as to all Federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;
- D. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
- E. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
- F. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.04. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement concerning examination of the Bidding Documents and the Site; that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents; that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.01. A mandatory virtual pre-bid conference will be held prior to the Bid opening on March 13, 2023 at 10:00 a.m to familiarize Bidders with this Project. Bidders can join via Zoom by using the link <https://structurepoint.zoom.us/j/82067570194> or by calling in at 1-669-444-9171 Meeting ID: 820 6757 0194. The meeting is expected to review a number of topics and include some screen sharing. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders must attend and are encouraged to participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

## ARTICLE 6 - INTERPRETATIONS AND ADDENDA

6.01. All questions about the meaning or intent of the Contract Documents are to be directed in writing to the Engineer (Kaitlyn Currie at [kcurrie@structurepoint.com](mailto:kcurrie@structurepoint.com) ). Interpretations or clarifications considered necessary by the Engineer in response to such questions will be issued by Addenda e-mailed at least five days prior to the receipt of Bids (March 22, 2023) to all parties recorded as having attended the mandatory pre-bid meeting. Questions received less than ten days prior (March 17, 2023 at 4PM) to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding upon the Owner. Oral and other interpretations or clarifications will be without legal effect.

6.02. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

## ARTICLE 7 - BID SECURITY

7.01. Each Bid must be accompanied by Bid Security made payable without condition to Owner in an amount of five percent (5%) of Bidder's maximum Bid and in the form of a certified check, bank check, or a bid bond issued by a surety meeting the requirements set forth in the Supplementary Conditions. The bid bond, if used, shall be submitted on the form included in the Bidding Documents.

7.02. The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and to furnish the required contract security within the number of days set forth in the Bid Form, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited, The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Agreement or the day after the last day the Bids remain subject to acceptance as set forth in the Bid Form, whereupon Bid security furnished by such Bidders will be returned.

7.03. The Bid Security of other Bidders, whom Owner believes to have a reasonable chance of receiving the award, may be retained by Owner for a period of 90 days after the Bid opening. The Bid Security of each unsuccessful Bidder will be returned when his/her Bid is rejected.

## ARTICLE 8 - CONTRACT TIMES

8.01. The numbers of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Bid Form.

## ARTICLE 9 - LIQUIDATED DAMAGES

9.01. Provisions for liquidated damages are set forth in the Standard Form of Agreement and Supplementary Conditions which is a part of the Bid Documents.

## ARTICLE 10 - SUBSTITUTE AND "OR-EQUAL" ITEMS

10.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or those substitute or "or-equal" materials and equipment



approved by Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or "or-equal" item. No item of material or equipment will be considered by Engineer as a substitute or "or-equal" unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall conform to the requirements of Article 7.04 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

## ARTICLE 11 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

11.01. If the Bidding Documents require the identity of certain Subcontractors, Suppliers, and other individuals or entities to be submitted to Owner, each Bidder shall submit to Owner with its Bid the List of Subcontractors, completed with the names of all such Subcontractors, Suppliers, and other individuals and entities proposed for those portions of the Work for which such identification is required. The list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity, if requested by Owner. If, after due investigation, Owner or Engineer has reasonable objection to any proposed Subcontractor, Supplier, or other individual or entity, Owner may, before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in the Bid amount.

11.02. If the apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, and other individuals and entities. Declining to make requested substitutions will not constitute grounds for sacrificing the bid security of any Bidder. Any Subcontractor, Supplier, or other individual or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer, subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Article 7.06 of the General Conditions.

11.03. Contractor shall not be required to employ any Subcontractor, individual, or entity against whom Contractor has a reasonable objection.

11.04. Any Bid conditioned upon furnishing equipment or materials which are not responsive to the Bidding Documents will be rejected.

## ARTICLE 12 - PREPARATION OF BIDS

12.01. The Proposal form is included with the Bidding Documents. All Bids shall be submitted on this form.

12.02. All blanks in the Proposal form shall be legibly completed with ink or by typewriter.

12.03. Bidders shall submit a Bid on a Unit Price Bid basis as set forth in the Proposal form.

12.04. A Bid by a corporation shall be executed in the corporate name by the president or the vice-president or by another corporate officer, accompanied by evidence of authority to sign for the corporation. The corporate address and state of incorporation shall be shown below the signature.

12.05. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

12.06. A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.

12.07. A Bid by an individual shall show the Bidder's name and official address.

12.08. The names of all persons signing shall be legibly printed or typed below their signatures.

12.09. The Bid shall contain an acknowledgment of receipt of all Addenda, the Addenda numbers and dates of which shall be filled in on the Proposal Form.

12.10. The address and telephone number for communications regarding the Bid shall be given.

#### ARTICLE 13 – SUBMISSION OF BIDS

13.01. Bids shall be submitted no later than the time and at the place indicated in the Advertisement for Bids, or at the modified time and place indicated by Addendum.

13.02. Bids shall be enclosed in an opaque, sealed envelope or wrapping, addressed to:

Office of the Director  
City of Bloomington Utilities  
600 E. Miller Drive  
Bloomington, Indiana 47401

13.03. Bid envelopes or packages shall be marked with the name and address of the Bidder. In addition each shall be identified on the outside with the words "Bid for Fullerton Pike – Phase III, Water Main Relocation".

13.04. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "SEALED BID ENCLOSED" on the face of it.

13.05. Oral, telephone, facsimile, electronic mail, or telegraph Bids are invalid and will not receive consideration.

13.06. No Bidder may submit more than one Bid. Multiple Bids under different names will not be accepted from one firm or association.

13.07. Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

13.08. Each Bid package is to include the following:

A. Proposal Form – completed and signed

- B. Form 96 (Revised 2013), "Contractors Bid For Public Works", including Non-Collusion Affidavit, completely executed, signed, and notarized as prescribed by the Indiana State Board of Accounts, and Section III of Part II of Form 96 titled, "Contractor's Financial Statement"
- C. Evidence of Bidder's authority and qualification to do business in the State of Indiana. Evidence shall consist of a certification from the state in accordance with IC 4-13.6-4 or IC 8-23-10 if the value of the contract is greater than \$300,000 for all Tier 1 contractors.
- D. Bidder's Qualifications as described in Sections I and II of Part II of Form 96 and other information that may be appropriate.
- E. Bid Security - acceptable Bidder's bond or certified check in an amount of not less than 5% of the total Bid price
- F. City of Bloomington Living Wage Ordinance form – Completed form
- G. City of Bloomington Responsible Bidder Affidavit form – Completed form
- H. Trench Safety Compliance Affidavit form – Completed if applicable
- I. Employee Drug Testing Compliance Affidavit form – Completed form
- J. E-Verify Affidavit form – Completed form

#### ARTICLE 14 - MODIFICATION OR WITHDRAWAL OF BID

14.01. A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed, and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

14.02. If, within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, If the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

#### ARTICLE 15 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

15.01. All Bids will remain subject to acceptance for the period of time stated in the Proposal form, but Owner may, in its sole discretion, release any Bid and return the Bid Security prior to the end of this period.

#### ARTICLE 16 - OPENING OF BIDS

16.01. Bids will be publicly opened at the time and place indicated in the Advertisement for Bids and, unless obviously non-responsive, read aloud. A Tabulation of Bids and alternatives, if any, will be made available to Bidders after they have been reviewed by the Engineer.

#### ARTICLE 17 - EVALUATION OF BIDS

17.01. Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Owner to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

17.02. More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

17.03. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

17.04. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

17.05. In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

17.06. Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

17.07. If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Owner.

17.08. Owner also may consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work.

## ARTICLE 18 - AWARD OF CONTRACT

18.01. If the Contract is to be awarded, it will be awarded to the lowest responsive and responsible Bidder whose evaluation by Owner indicates to the Owner that the award will be in the best interests of the Owner.

## ARTICLE 19 - FORFEITURE OF BID SECURITY

19.01. In the event the party to whom the Contract is awarded shall fail or neglect to execute the Agreement and furnish satisfactory bonds within 15 days after the Owner has notified him that the Agreement is ready for execution, the Owner may determine that the Bidder abandoned the Agreement and thereupon the Bid and acceptance shall be null and void; and the security accompanying the Bid shall be forfeited to and retained by the Owner as liquidated damages for such failure and neglect, and to indemnify the Owner for any loss which may be sustained by

failure of the Bidder to execute the Agreement. After the execution of the Agreement and the acceptance of the bonds by the Owner, the Bid Securities, in the form of a check, which have been retained by the Owner shall be returned to the respective Bidders.

#### ARTICLE 20 – SIGNING OF AGREEMENT

20.01. When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within 15 days thereafter, Owner shall deliver two fully signed counterparts to Successful Bidder (one for surety provider) and the Notice to Proceed document.

#### ARTICLE 21 - CONTRACT SECURITY AND INSURANCE

21.01. Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bond and insurance documents.

#### ARTICLE 22 - SALES AND USE TAXES

22.01. Owner is exempt from Indiana state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid. Refer to Paragraph SC-7.09 of the Supplementary Conditions for additional information.

#### ARTICLE 23 – RETAINAGE

23.01. Provisions concerning retainage are set forth in the Agreement.

#### ARTICLE 24 - LOCAL MATERIALS

24.01. Preference will be given to materials, products, supplies, and all other articles produced, manufactured, made, or grown in the State of Indiana.

END OF SECTION 00 21 13  
INSTRUCTIONS TO BIDDERS

# BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

## ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to: The City of Bloomington Utilities  
600 E. Miller Drive, Bloomington, Indiana, 47401
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

## ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
  - B. List of Proposed Subcontractors;
  - C. List of Proposed Suppliers;
  - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
  - E. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
  - F. Required Bidder Qualification Statement with supporting data;

## ARTICLE 3—BASIS OF BID

### 3.01 *Unit Price Bids*

- A. Bidder will perform the following Work at the indicated unit prices:

Item No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Amount
0001	MOBILIZATION AND DEMOBILIZATION	1	LS		\$
0002	CONSTRUCTION ENGINEERING	1	LS		\$
0003	MAINTENANCE OF TRAFFIC	1	LS		\$
0004	EROSION CONTROL	1	LS		\$
0005	CLEARING AND RESTORATION	1	LS		\$
0006	EXCAVATION, ROCK	32	CYS		\$
0007	PIPE, REMOVE OR ABANDON, WATER MAIN, DUCTILE IRON, 6 IN	40	LFT		\$
0008	PIPE, REMOVE OR ABANDON, WATER MAIN, DUCTILE IRON, 8 IN	1,270	LFT		\$

0009	PIPE, REMOVE OR ABANDON, WATER MAIN, DUCTILE IRON, 12 IN	95	LFT		\$
0010	WATER MAIN, PVC C-900 DR 14, 6 IN	54	LFT		\$
0011	WATER MAIN, PVC C-900 DR 14, 8 IN	939	LFT		\$
0012	WATER MAIN, PVC C-900 DR 14, 12 IN	498	LFT		\$
0013	RESTRAIN EXISTING JOINT, WATER MAIN, 6 IN	2	EACH		\$
0014	RESTRAIN EXISTING JOINT, WATER MAIN, 8 IN	8	EACH		\$
0015	RESTRAIN EXISTING JOINT, WATER MAIN, 12 IN	3	EACH		\$
0016	AIR RELEASE VALVE WITH 4-FT DIAMETER MANHOLE	1	EACH		\$
0017	VALVE WITH BOX, RESTRAINED GATE, DUCTILE IRON, 6 IN	2	EACH		\$
0018	VALVE WITH BOX, RESTRAINED GATE, DUCTILE IRON, 8 IN	7	EACH		\$
0019	VALVE WITH BOX, RESTRAINED GATE, DUCTILE IRON, 12 IN	4	EACH		\$
0020	LINE STOP, 6 IN	1	EACH		\$
0021	LINE STOP, 8 IN	3	EACH		\$
0022	FIRE HYDRANT ASSEMBLY, REMOVE	4	EACH		\$
0023	FIRE HYDRANT ASSEMBLY	4	EACH		\$
0024	AIR RELEASE VALVE WITH MANHOLE, EXISTING, REMOVE	1	EACH		\$
0025	RELOCATE EXISTING WATER SERVICE	30	LFT		\$
0026	SIDEWALK, CONCRETE, 4 IN	245	SYS		\$
0027	ASPHALT PAVEMENT REPLACEMENT	75	SYS		\$
0028	DRIVEWAY REPAIR	17	SYS		\$
Total of All Unit Price Bid Items					\$

B. Bidder acknowledges that:

1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
2. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

3.02 *Total Bid Price*

Total Bid Price (Total of all Unit Price Bids)	\$
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3.03 *Unit Price Alternates*

Alt No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Amount
1	WATER MAIN, DUCTILE IRON CLASS 350, 6 IN	54	LFT		\$
2	WATER MAIN, DUCTILE IRON CLASS 350, 8 IN	939	LFT		\$

3	WATER MAIN, DUCTILE IRON CLASS 350, 12 IN	498	LFT		\$
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#### ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder agrees that the Work will be substantially complete on or before **August 23, 2023**, and will be completed and ready for final payment on or before **September 22, 2023**.
- 4.03 Bidder agrees that the Work will be substantially complete within **120** calendar days after the date when the Contract Times commence, and will be completed and ready for final payment within **150** calendar days after the date when the Contract Times commence to run.
- 4.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

#### ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

##### 5.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

##### 5.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

##### 5.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

#### ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

##### 6.01 *Bidder's Representations*

- A. In submitting this Bid, Bidder represents the following:
1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
  2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.



3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
  - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
  - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
  - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

\_\_\_\_\_  
*(typed or printed name of organization)*

By:

\_\_\_\_\_  
*(individual's signature)*

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Date:

\_\_\_\_\_  
*(typed or printed)*

*If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.*

Attest:

\_\_\_\_\_  
*(individual's signature)*

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Date:

\_\_\_\_\_  
*(typed or printed)*

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_

Bidder's Contact:

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Phone:

Email:

Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Bidder's Contractor License No.: (if applicable)

\_\_\_\_\_



# CONTRACTOR'S BID FOR PUBLIC WORK - FORM 96

State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013)

Prescribed by State Board of Accounts

## PART I

(To be completed for all bids. Please type or print)

Date (month, day, year): \_\_\_\_\_

1. Governmental Unit (Owner): \_\_\_\_\_

2. County : \_\_\_\_\_

3. Bidder (Firm): \_\_\_\_\_

Address: \_\_\_\_\_

City/State/ZIPcode: \_\_\_\_\_

4. Telephone Number: \_\_\_\_\_

5. Agent of Bidder (if applicable): \_\_\_\_\_

Pursuant to notices given, the undersigned offers to furnish labor and/or material necessary to complete the public works project of \_\_\_\_\_

(Governmental Unit) in accordance with plans and specifications prepared by \_\_\_\_\_

\_\_\_\_\_ and dated \_\_\_\_\_ for the sum of  
\_\_\_\_\_ \$

The undersigned further agrees to furnish a bond or certified check with this bid for an amount specified in the notice of the letting. If alternative bids apply, the undersigned submits a proposal for each in accordance with the notice. Any addendums attached will be specifically referenced at the applicable page.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit basis, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

### CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS (If applicable)

I, the undersigned bidder or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel products on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

## ACCEPTANCE

The above bid is accepted this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, subject to the following conditions: \_\_\_\_\_

\_\_\_\_\_

Contracting Authority Members:

_____	_____
_____	_____
_____	_____

## PART II

*(For projects of \$150,000 or more – IC 36-1-12-4)*

Governmental Unit: \_\_\_\_\_

Bidder (Firm) \_\_\_\_\_

Date (month, day, year): \_\_\_\_\_

These statements to be submitted under oath by each bidder with and as a part of his bid.  
Attach additional pages for each section as needed.

## SECTION I EXPERIENCE QUESTIONNAIRE

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

2. What public works projects are now in process of construction by your organization?

Contract Amount	Class of Work	Expected Completion Date	Name and Address of Owner

3. Have you ever failed to complete any work awarded to you? \_\_\_\_\_ If so, where and why?

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4. List references from private firms for which you have performed work.

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## SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed work. *(Examples could include a narrative of when you could begin work, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)*

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2. Please list the names and addresses of all subcontractors *(i.e. persons or firms outside your own firm who have performed part of the work)* that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.

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3. If you intend to sublet any portion of the work, state the name and address of each subcontractor, equipment to be used by the subcontractor, and whether you will require a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

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4. What equipment do you have available to use for the proposed project? Any equipment to be used by subcontractors may also be required to be listed by the governmental unit.

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5. Have you entered into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which would corroborate the prices listed.

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### SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of bidder's financial statement is mandatory. Any bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the contract must be specific enough in detail so that said governing body can make a proper determination of the bidder's capability for completing the project if awarded.

#### SECTION IV CONTRACTOR'S NON – COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

#### SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  
(Name of Organization)

By \_\_\_\_\_

\_\_\_\_\_  
(Title of Person Signing)

#### ACKNOWLEDGEMENT

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) ss

Before me, a Notary Public, personally appeared the above-named \_\_\_\_\_ and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

County of Residence: \_\_\_\_\_



**BID OF**

\_\_\_\_\_  
(Contractor)

\_\_\_\_\_  
(Address)

**FOR**

**PUBLIC WORKS PROJECTS**

**OF**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Filed \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_

Action taken \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

### BID

Bid Due Date:

Description (*Project Name— Include Location*):

### BOND

Bond Number:

Date:

Penal sum \_\_\_\_\_ \$ \_\_\_\_\_  
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

#### BIDDER

#### SURETY

\_\_\_\_\_  
Bidder's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature (Attach Power of Attorney)

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_  
Signature

Attest: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Note: Addresses are to be used for giving any required notice.*

*Provide execution by any additional parties, such as joint venturers, if necessary.*

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
  - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
  - 3.2 All Bids are rejected by Owner, or
  - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

### **Responsible Bidder Affidavit**

Contractor and any subcontractor performing more than \$150,000 worth of work on the project shall complete this *Responsible Bidder Affidavit* as required by Chapter 2.29 of the Bloomington Municipal Code. Contractor must submit this affidavit with its bid. Failure to comply with all submission requirements may result in a determination that the Contractor is not a responsible and responsive bidder.

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The undersigned \_\_\_\_\_, as \_\_\_\_\_ and on behalf of  
(Name) (Title)  
\_\_\_\_\_ certifies the following:  
(Contractor)

Contractor is compliant with all applicable laws pre-requisite to doing business in Indiana.

Yes [ ] No [ ]

Does Contractor have a Federal Employer Identification Number (EIN) (also known as a Federal Tax Identification Number)?

Yes [ ] No [ ]

Please list your Federal Employer Identification Number: \_\_\_\_\_

Alternatively, for sole proprietors, list your social security number: \_\_\_\_\_

Contractor is in compliance with Section 2000(e) of Chapter 21, Title 42 of the United States Code and Federal Executive Order Number 11375 (known as the Equal Opportunity Employer Provisions).

Yes [ ] No [ ]

Contractor has submitted an affirmative action plan as required under § 2.21.070(8) of the Bloomington Municipal Code.

Yes [ ] No [ ]

Contractor affirms that all of its workers who qualify as employees are covered under a current worker's compensation insurance policy, and that all workers who will be part of the project are properly classified as employees or independent contractors.

Yes [ ] No [ ]

Contractor will comply with Indiana Code § 5-16-7 et. seq., known as the Indiana Common Construction Wage Act.

Yes [ ] No [ ]

Contractor confirms that any of its employees designated as apprentices are properly registered with an apprenticeship and training program approved and registered with the United States Department of Labor, Bureau of Apprenticeship and Training.

Yes [ ] No [ ]

Contractor currently has a substance abuse testing policy in place.

Yes [ ] No [ ]

Please list any professional or trade license(s) required by law for any trade or specialty area required to complete work on the present project.

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Has the Contractor, or any directors, officers, or managers employed by the Contractor, had any professional or trade license suspended or revoked within the last five (5) years?

Yes [ ] No [ ]

**Verification**

I certify that I am authorized to execute this affidavit on behalf of the Contractor set forth above, that I have personal knowledge of all the information set forth herein, and that all statements representations, and information contained in this affidavit are true and accurate.

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Signature of Authorized Officer

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Name of Authorized Officer

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Title

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Date

STATE OF INDIANA )  
 ) SS:  
COUNTY OF \_\_\_\_\_ )

Drug Testing Compliance Affidavit  
Page 1 of 2

STATE OF INDIANA )  
 ) SS:  
COUNTY OF \_\_\_\_\_ )

Before me, a Notary Public in and for said County and State, personally appeared \_\_\_\_\_ and acknowledged the execution of the foregoing this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

My Commission Expires: \_\_\_\_\_  
Signature of Notary Public  
County of Residence: \_\_\_\_\_  
Printed Name of Notary Public

**BIDDER'S AFFIDAVIT IN COMPLIANCE WITH INDIANA CODE 36-1-12-20 TRENCH SAFETY SYSTEMS;  
COST RECOVERY**

STATE OF INDIANA )  
 ) SS:  
COUNTY OF \_\_\_\_\_)

# AFFIDAVIT

The undersigned, being duly sworn, hereby affirms and says that:

1. The undersigned is the \_\_\_\_\_ of  
(job title)  
\_\_\_\_\_  
(company name).
2. The undersigned is duly authorized and has full authority to execute this Bidder's Affidavit.
3. The company named herein that employs the undersigned:
  - i. has contracted with or seeking to contract with the City of Bloomington to provide services; **OR**
  - ii. is a subcontractor on a contract to provide services to the City of Bloomington.
4. By submission of this Bid and subsequent execution of a Contract, the undersigned Bidder certifies that as successful Bidder (Contractor) all trench excavation done within his/her control (by his/her own forces or by his/her Subcontractors) shall be accomplished in strict adherence with OSHA trench safety standards contained in 29 C.F.R. 1926, Subpart P, including all subsequent revisions or updates to these standards as adopted by the United States Department of Labor.
5. The undersigned Bidder certifies that as successful Bidder (Contractor) he/she has obtained or will obtain identical certification from any proposed Subcontractors that will perform trench excavation prior to award of the subcontracts and that he/she will retain such certifications in a file for a period of not less than three (3) years following final acceptance.
6. The Bidder acknowledges that included in the various items listed in the Schedule of Bid Prices and in the Total Amount of Bid Prices are costs for complying with I.C. 36-1-12-20. The Bidder further identifies the costs to be summarized below\*:



	Trench Safety Measure	Units of Measure	Unit Cost	Unit Quantity	Extended Cost
A.					
B.					
C.					
D.					
				<b>Total</b>	<b>\$ _____</b>

Method of Compliance (Specify) \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

STATE OF INDIANA )  
 ) SS:  
COUNTY OF \_\_\_\_\_ )

Before me, a Notary Public in and for said County and State, personally appeared \_\_\_\_\_ and acknowledged the execution of the foregoing this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

My Commission Expires: \_\_\_\_\_  
Signature of Notary Public

County of Residence: \_\_\_\_\_  
Printed Name of Notary Public

\*Bidders: Add extra sheet(s), if needed.

If Bidder fails to complete and execute this sworn affidavit, his/her Bid may be declared nonresponsive and rejected by the **CITY OF BLOOMINGTON**.

STATE OF INDIANA )  
 )SS:  
COUNTY OF \_\_\_\_\_ )

## AFFIDAVIT REGARDING E-VERIFY

The undersigned, being duly sworn, hereby affirms and says that:

1. The undersigned is the \_\_\_\_\_ of \_\_\_\_\_.  
(job title) (company name)
2. The company named herein that employs the undersigned has contracted with or is seeking to contract with the City of Bloomington to provide services.
3. The undersigned hereby states that, to the best of his/her knowledge and belief, the company named herein does not knowingly employ an “unauthorized alien,” as defined at 8 United States Code 1324a(h)(3).
4. The undersigned hereby states that, to the best of his/her knowledge and belief, the company named herein is enrolled in and participates in the E-Verify program.

---

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

STATE OF INDIANA )  
 )SS:  
COUNTY OF \_\_\_\_\_ )

Before me, a Notary Public in and for said County and State, personally appeared

\_\_\_\_\_ and acknowledged the execution of the foregoing

this \_\_\_\_\_ day of \_\_\_\_\_, 2023

My Commission Expires:\_\_\_\_\_

---

Notary Public

County of Residence:\_\_\_\_\_

---

Name Printed \_\_\_\_\_

## **AGREEMENT**

**THIS AGREEMENT**, executed by and between the City of Bloomington, Indiana, Utilities Department through the Utilities Service Board (hereinafter referred to as City), and \_\_\_\_\_ (hereinafter referred to as Contractor);

### **WITNESSETH THAT:**

**WHEREAS**, City desires to retain Contractor's services for Scope of Work, more particularly described in Attachment "A", "Scope of Work"; and

**WHEREAS**, Contractor is capable of performing work as per his/her Bid on the Bid Proposal Form; and

**WHEREAS**, in accordance with Indiana Code § 5-16-13 *et seq.*, incorporated herein by reference, Contractor is a Tier 1 or General Contractor for this project; and

**WHEREAS**, Contractor was determined to be the lowest responsible and responsive Bidder for said project.

**NOW, THEREFORE**, in consideration of the mutual promises hereinafter enumerated, the parties agree as follows:

### **ARTICLE 1: TERM**

This Agreement shall be in effect upon execution of this Agreement by all parties. In accordance with Indiana Code 5-16-13 *et seq.*, incorporated herein by reference, Contractor is a Tier 1 contractor or general contractor for this project.

### **ARTICLE 2: ENGINEER**

Engineer shall mean the City of Bloomington Utilities and its designated project manager, who will act as the City's representatives and assume all duties and responsibilities and have the rights and authority assigned to Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents. The Project has been designed by American Structurepoint, Inc., who is referred to in the Contract Documents as Designer, and will consult with, advise, and assist the Engineer in connection with the completion of the Work in accordance with the Contract Documents as requested.

### **ARTICLE 3: WORK**

Contractor shall complete all Work as specified or indicated in the Contract Documents and as generally described in Attachment A, "Scope of Work", attached hereto, subject to any additions or deductions as provided in the Contract Documents.

### **ARTICLE 4: CONTRACT PRICE**

City shall pay the Contractor for performance of the Work in accordance with the Contract Documents and subject to any additions or deductions as provided in the Contract Documents.

Alternate: Owner accepts/rejects Deduct Alternate 1 as identified in the proposal Form for the deduct amount of \_\_\_\_\_ (\$\_\_\_\_\_).

The contract amount after consideration of the Alternates is \_\_\_\_\_ (\$\_\_\_\_\_). Said sum shall be paid in accordance with the terms of the Contract Documents.

Contractor acknowledges that the above contract amount includes an unallocated contingency amount of \$200,000 that is under the control of the Engineer and will only be authorized for expenditure in whole or in part after a change order is issued by the Owner.

City may withhold payment, in whole or in part, to the extent necessary to protect itself from a loss on account of any of the following:

Defective work.

Evidence indicating the probable filing of claims by other parties against Contractor which may adversely affect City.

Failure of Contractor to make payments due to subcontractors, material suppliers or employees.

Damage to City or a third party.

The submission of any request for payment shall be deemed a waiver and release by Contractor of all liens and claims with respect to the work and period to which such payment request pertains except as specifically reserved and noted on such request.

Contractor shall maintain proper account records for the scope of all services of this Agreement and provide an accounting for all charges and expenditures as may be necessary for audit purposes. All such records shall be subject to inspection and examination by City's representatives at reasonable business hours.

#### **ARTICLE 5: CONTRACT TIMES, LIQUIDATED DAMAGES, DELAYS, AND DAMAGES**

**5.1. Contract Times.** The Work to be performed under this Contract shall commence on a date to be specified in a written Notice to Proceed order from the City. Subject to extensions of time granted in writing by City, in its sole discretion, the Work shall be Substantially Complete within 120 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 150 days after the date when the Contract Times commence to run.

Prior to commencement of the construction Work, the Contractor shall furnish to the City satisfactory evidence of the adequate bond and insurance coverage and that all other conditions of the Contract Documents required to be performed prior to starting Work have been complied with by the Contractor.

**5.2. Liquidated Damages.** City and Contractor recognize that time is of the essence of this Agreement and that City will suffer financial loss if the Work is not completed within the times specified in Paragraph 5.1 above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. They also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by City if the Work is not completed on time. Accordingly, instead of requiring any such proof, City and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay City the following amount for each calendar day that expires after the times specified in Paragraph 5.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times specified or any proper extension thereof granted by City, Contractor shall pay City the following amounts for each day that expires after the times specified in Paragraph 5.1 for completion and readiness for final payment:

<u>Item</u>	<u>Liquidated Damages, per calendar day</u>
Substantial Completion of the Work	\$1,500.00
Final Completion of all Work	\$1,000.00

City shall have the right to deduct the liquidated damages from retainage or other money in its hands, otherwise due, or to become due, to Contractor, or to initiate applicable dispute resolution procedures and recover liquidated damages for nonperformance of this Contract within the time stipulated.

## **ARTICLE 6: PAYMENT PROCEDURES**

Contractor shall submit Application for Payment in accordance with Article 15 of the General Conditions. Application for Payment will be processed by the Engineer as provided in General Conditions and Supplementary Conditions.

**6.1. Progress Payments.** City shall make payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Engineer, on a monthly basis during performance of the Work. All progress payments will be on the basis of the progress of the Work measured by the schedule of values established in Paragraph 2.05 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

## **ARTICLE 7: RETAINAGE**

Pursuant to Indiana Code, Section 36-1-12-14, contracts in excess of Two Hundred Thousand Dollars (\$200,000.00) are required to provide for retainage between the City and the Contractor. For contracts in excess of \$100,000 and for which Contractor requests Progressive Payments, the Owner also requires that retainage be held as set out below.

**7.1. Escrow Agent.** The retainage amount withheld shall be placed in an escrow account. First Financial Bank, Bloomington, Indiana, shall serve as the escrow agent, subject to compliance with 7.2 below.

**7.2. Retainage Amount.** The escrow agent, City and Contractor shall enter into a written escrow agreement. Under that agreement, the City shall withhold five percent (5%) of the dollar value of all work satisfactorily completed until the Contract work is substantially complete. The escrow agent shall invest all escrowed principal in obligations selected by the escrow agent. The escrow agent shall be compensated for the agent's services by a reasonable fee, agreed upon by the parties, that is comparable with fees charged for the handling of escrow accounts of similar size and duration. The fee shall be paid from the escrow income. The escrow agent's fee may be determined by specifying an amount of interest the escrow agent will pay on the escrowed amount, with any additional earned interest serving as the escrow agent's fee. The escrow agreement may include other terms and conditions as deemed necessary by the parties.

**7.3. Payment of Escrow Amount.** The escrow agent shall hold the escrowed principal and income until receipt of the notice from the City and Contractor that the Contract work has been substantially completed to the reasonable satisfaction of the City, at which time the City shall pay to the Contractor the balance to be paid under this Contract and execute such documents as are necessary to authorize the escrow agent to pay to the Contractor the funds in the escrow account, including both specifying the part of the escrowed principal to be released from the escrow and the person to whom that portion is to be released. After receipt of the notice, the escrow agent shall remit the designated part of the escrowed principal and the escrowed income, minus the escrow agent's fees, to the person specified in the notice. However, nothing in this section shall prohibit City from requiring the escrow agent to withhold amounts necessary to complete minor items of the Contract, following substantial completion of the Contract in accordance with the provisions of paragraph 7.4.

**7.4. Withholding Funds for Completion of Contract.** If, upon substantial completion of the Contract, there still remains minor Contract work that needs to be completed, or minor Contract work that needs to be performed to the satisfaction of the City, City may direct the escrow agent to retain in the escrow account, and withhold from payment to the Contractor, an amount equal to two hundred percent (200%) of the value of said work. The value of said work shall be determined by the Engineer. The escrow agent shall release the funds withheld under this section after receipt of notice from the City that all work on the Contract has been satisfactorily completed. In the event that said work is not completed by the Contractor, but by City or another party under contract with the City, said funds shall be released to the City.

## **ARTICLE 8: ENUMERATION OF CONTRACT DOCUMENTS**

The Contract Documents, which constitute the entire agreement between the City and Contractor, are incorporated herein by reference, made a part hereof and enumerated as follows:

1. This Agreement and its Attachments A, B, C, and D
2. All written Amendments and other documents amending, modifying, or supplementing the Contract Documents pursuant to Paragraph 3.04 of the General Conditions, which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto
3. All Addenda to the Bid Documents
4. Advertisement for Bidders
5. Instructions to Bidders
6. Contractor's Bid and supporting documents submitted with the bid
7. Bid Bond
8. Performance and Payment Bonds
9. Standard General Conditions
10. Supplementary Conditions
11. Local Contract and Bidding Documents as listed in the Table of Contents
12. Notice of Award
13. Notice to Proceed
14. Specifications
15. Drawings
16. Submittals
17. Escrow Agreement

There are no Contract Documents other than those listed in this article. The Contract Documents may be amended, modified, or supplemented only as provided in Article 11 of the General Conditions.

In resolving conflicts, errors, discrepancies and disputes concerning the Work to be performed by Contractor, and other rights and obligations of City and Contractor, the document expressing the greater quantity, quality or other scope of work in question, or imposing the greater obligation upon Contractor and affording the greater right or remedy to City shall govern; otherwise the documents shall be given precedence in the order as enumerated above.

## **ARTICLE 9: GENERAL PROVISIONS**

**9.1.** Contractor agrees to comply with all federal, state, and local laws, rules and regulations applicable to Contractor in performing work pursuant to this Agreement, including, but not limited to, discrimination in employment, prevailing wage laws, conflicts of interest, public notice, accounting records and requirements. This Agreement shall be governed by the laws of the United States, and the State of Indiana, and by all Municipal Ordinances and Codes of the City of Bloomington. Venue of any disputes arising under this Agreement shall be in the Monroe Circuit Court, Monroe County, Indiana.

**9.2.** Contractor agrees to indemnify and hold harmless City and its officers, agents, officials and employees for any and all claims, actions, causes of action, judgments and liens arising out of any negligent act or omission by Contractor or any of its officers, agents, officials, employees, or subcontractors or any defect in materials or workmanship of any supply, materials, mechanism or other product or service which it or any of its officers, agents, officials, employees, or subcontractors has supplied to City or has used in connection with this Agreement and regardless of whether or not it is caused in part by a party indemnified herein under. Such indemnity shall include attorney's fees and all costs and other expenses arising there from or incurred in connection therewith and shall not be limited by reason of the enumeration of any insurance coverage required herein.

**9.3.** In the event of a breach of this Contract by Contractor, City shall be entitled to pursue any and all remedies available, both legal and equitable, under the laws of the State of Indiana. In addition to any other remedy to which City may be entitled upon a breach by Contractor, City shall be entitled to recover from Contractor the reasonable expenses incurred by City, including attorney fees, in enforcing this Contract.

**9.4.** No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

**9.5.** City and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract Documents.

**9.6.** The business address of Contractor given herein and the address of Contractor's office in the vicinity of the Work are both hereby designated as the places to which all notices, letters, and other communication to Contractor will be mailed or delivered. The address of City appearing herein is hereby designated as the place to which all notices, letters, and other communication to City shall be mailed or delivered. Either party may change its address at any time by an instrument in writing delivered to City and to the other party.

**9.7.** Both parties agree that for the purpose of this Agreement, Contractor shall be an independent contractor and not an employee of City.

**9.8. Non-Discrimination.**

- A. Contractor and sub-Contractors shall not discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to hire, tenure, terms, training, conditions or privileges of employment, because of race, sex, color, religion, national origin, ancestry, disability, sexual orientation, gender identity, veteran status, or housing status. Breach of this covenant may be regarded as a material breach of the Agreement.
- B. Contractor certifies for itself and all its sub-Contractors compliance with existing laws of the City of Bloomington, the State of Indiana and the United States regarding:
  - 1. Prohibition of discrimination in employment practices on the basis of race, sex, color, religion, national origin, ancestry, disability, sexual orientation, gender identity, veteran status, housing status or any other legally protected classification;
  - 2. The utilization of Minority and Women Business Enterprises. Contractor further certifies that it:
    - a. Has formulated its own Affirmation Action plan for the recruitment, training and employment of minorities and women, including goals and timetable; which has been approved by the City's Contract Compliance Officer.
    - b. Encourages the use of small business, minority-owned business and women-owned business in its operations.
  - 3. FURTHER, PURSUANT TO INDIANA CODE § 5-16-6-1, Contractor AGREES:
    - a. That in the hiring of employees for the performance of work under this Agreement or any sub agreement hereunder, no Contractor, or sub-Contractor, nor any person acting on behalf of such Contractor or sub-Contractor, shall by reason of race, sex, color, religion, national origin, ancestry, or any other legally protected classification, discriminate against any citizen of the State of Indiana who is qualified and available to perform the work to which the employment relates.
    - b. That no Contractor, sub-Contractor, or any person on their behalf, shall, in any manner, discriminate against or intimidate any employee hired for performance of work under

this Agreement on account of race, religion, color, sex, national origin, ancestry or any other legally protected classification.

- c. That there may be deducted from the amount payable to Contractor, by City, under this Agreement, penalty of Five Dollars (\$5.00) for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of this Agreement. Any such person discriminated against retains the right to file a discrimination complaint with the appropriate civil rights agency or court.
- d. That this Agreement may be canceled or terminated by City and all money due or to become hereunder may be forfeited, for a second or any subsequent violations of the terms or conditions under this section of the Agreement.

#### **9.9. Safety.**

1. Contractor shall be responsible for the safety of employees at all times and shall provide all equipment necessary to insure their safety. Contractor shall ensure the enforcement of all applicable safety rules, regulations, ordinances and laws, whether federal, state or local. Contractor's Superintendent of Safety shall make daily inspections upon the arrival and leaving of the site at the close of each workday.
2. Contractor is required to comply with IOSHA regulations 29 C.F.R 1926, Subpart P, Excavations for all trenches of at least five (5) feet in depth. All cost for trench safety systems shall be the responsibility of the Contractor and included in the cost of the principal work with which the safety systems are associated. Contractor's affidavit, submitted with his bid, affirms that Contractor shall maintain compliance with IOSHA requirements for excavations of at least five (5) in depth.
3. Contractor shall indemnify and hold harmless City and its officers, agents, officials and employees for any and all damages, actions, costs, (including, but not limited to, attorney's fees, court costs and costs of investigation) judgments and claims by anyone for damage to property, injury or death to persons resulting from the collapse or failure of any trenches, ditches or other excavations constructed under or associated with this contract.

#### **9.10. Steel or Foundry Products.**

1. To comply with Indiana Code § 5-16-8, affecting all contracts for the construction, reconstruction, alteration, repair, improvement or maintenance of public works, the following provision shall be added: If steel or foundry products are to be utilized or supplied in the performance of any contract or subcontract, only domestic steel or foundry products shall be used. Should City feel that the cost of domestic steel or foundry products is unreasonable; City will notify Contractor in writing of this fact.
2. Domestic Steel products are defined as "Products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two (2) or more of such operations, from steel made in the United States by open hearth, basic oxygen, electric furnace, Bessemer or other steel making process."
3. Domestic Foundry products are defined as "Products cast from ferrous and nonferrous metals by foundries in the United States."
4. The United States is defined to include all territory subject to the jurisdiction of the United States.
5. City may not authorize or make any payment to Contractor unless City is satisfied that Contractor has fully complied with this provision.



### **9.11 Verification of Employees' Immigration Status**

1. Contractor is required to enroll in and verify the work eligibility status of all newly-hired employees through the E-Verify program. (This is not required if the E-Verify program no longer exists). Contractor's affidavit, submitted with his bid, affirms that Contractor does not knowingly employ an unauthorized alien. "Unauthorized alien" is defined at 8 U.S. Code 1324a(h)(3) as a person who is not a U.S. citizen or U.S. national and is not lawfully admitted for permanent residence or authorized to work in the U.S. under 8 U.S. Code Chapter 12 or by the U.S. Attorney General.
2. Contractor and any of its sub-Contractors may not knowingly employ or contract with an unauthorized alien, or retain an employee or contract with a person that the Contractor or any of its sub-Contractors learns is an unauthorized alien. If the City obtains information that the Contractor or any of its sub-Contractors employs or retains an employee who is an unauthorized alien, the City shall notify the Contractor or its sub-Contractors of the Agreement violation and require that the violation be remedied within thirty (30) calendar days of the date of notice. If the Contractor or any of its sub-Contractors verify the work eligibility status of the employee in question through the E-Verify program, there is a rebuttable presumption that the Contractor or its sub-Contractor did not knowingly employ an unauthorized alien. If the Contractor or its sub-Contractor fails to remedy the violation within the thirty (30) calendar day period, the City shall terminate the Agreement, unless the City determines that terminating the Agreement would be detrimental to the public interest or public property, in which case the City may allow the Agreement to remain in effect until the City procures a new Contractor. If the City terminates the Agreement, the Contractor or its sub-Contractor is liable to the City for actual damages.
3. Contractor shall require any sub-Contractors performing work under this Agreement to certify to the Contractor that, at the time of certification, the sub-Contractor does not knowingly employ or contract with an unauthorized alien and the sub-Contractor has enrolled in and is participating in the E-Verify program. Contractor shall maintain on file all sub-Contractors' certifications throughout the term of this Agreement with the City.

### **9.12. Drug Testing Plan.**

1. In accordance with Indiana Code 4-13-18 as amended, the Contractor was required to submit with his/her bid a written drug testing policy for a public works project that is estimated to cost \$150,000 or more. Among other things, the law sets forth specific requirements that must be in the plan for a program to test the employees of the Contractor and Subcontractors for drugs. The successful Contractor must comply with all provisions of the statute. This contract is subject to cancellation if Contractor fails to implement its testing program during the term of this contract, fails to provide information regarding this testing at the request of City; or provides false information to City regarding Contractor's employee drug testing program. Contractor's affidavit, submitted with his bid, affirms that Contractor has and shall implement Contractor's employee drug testing program throughout the term of this project.

IN WITNESS WHEREOF, the parties to this Agreement have hereunto set their hands.

CITY: CITY OF BLOOMINGTON, INDIANA  
UTILITIES SERVICE BOARD

Date: \_\_\_\_\_, 2018

By: \_\_\_\_\_  
Amanda Burnham  
President, Utilities Service Board

\_\_\_\_\_  
Vic Kelson  
Director of Utilities

\_\_\_\_\_  
John Hamilton  
Mayor of Bloomington

City address for giving notices:

PO Box 1216  
Bloomington, IN 47402

CONTRACTOR: \_\_\_\_\_

Date: \_\_\_\_\_, 2018

By: \_\_\_\_\_  
Authorized Contractor Representative

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title of Contractor Representative

Contractor address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_

## **ATTACHMENT A**

### **SCOPE OF WORK**

#### **FULLERTON PIKE – PHASE III, WATER MAIN RELOCATION**

##### **W. GORDON PIKE**

Work includes but is not limited to, the relocation of water main. This project is a result of a road reconstruction project involving a round-about installation. As a result of the road reconstruction, relocation of existing water utilities are required. The relocations shall include approximately 500 lineal feet of 12-inch water main, 940 lineal feet of 8-inch water main, and 55 lineal feet of 6-inch water main, as well as reinstating all existing services, and all other related work and appurtenances necessary to complete the work shown on the Drawings and described in the Specifications.



JOHN HAMILTON  
MAYOR

**SUBSTITUTE W-9 & BANK/EFT FORM**

CITY OF BLOOMINGTON CONTROLLER'S OFFICE

401 N Morton St  
Post Office Box 100  
Bloomington IN 47402

p 812.349.3412  
f 812.349.3456  
controller@bloomington.in.gov

**REQUEST FOR TAXPAYER IDENTIFICATION NUMBER AND CERTIFICATION: SUBSTITUTE W-9**

Name (as shown on your tax return):

Business Name/DBA (if different than above):

Check appropriate box for federal tax classification:

- ☐ Individual/sole proprietor    ☐ C Corporation    ☐ S Corporation    ☐ Partnership    ☐ Trust/estate
- ☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► \_\_\_\_\_
- ☐ Other ► \_\_\_\_\_

**Exemptions:**  
Exempt payee code (if any) \_\_\_\_\_  
Exemption from FATCA reporting code (if any) \_\_\_\_\_

Address (number, street, and apt. or suite no.):

City, State, and ZIP code:

Telephone number:

Fax number:

Email:

Check all that apply:

- ☐ State or Local Government    ☐ City Employee    ☐ Contractual Employee    ☐ Farmer's Market Vendor    ☐ Not for Profit - 501(c)

List city department(s) you are doing business with (Parks, Fire, Utilities etc.):

Commodities or Services provided:

Primary NAICS Code:

DUNS #:

**Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line. To avoid backup withhold. For individuals, this is your social security number (SSN). However, for a Resident alien, sole proprietor, or disregarded entity, see the Part 1 instructions on page 3 of IRS Form W-9. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3 of IRS Form W-9

**Note:** If the account is in more than one name, see the instructions for line 1 and the chart on page 4.

**Social security number**

			-			-			
--	--	--	---	--	--	---	--	--	--

**Employer identification number**

			-			-			
--	--	--	---	--	--	---	--	--	--

**Certification**

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. person or other U.S. person (defined below), and
4. The FATCA codes(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification Instructions**

You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3 of the IRS Form W-9.

Please mail or fax this complete form as soon as possible to the Controller's Office using the contact information above.

**NO PAYMENTS WILL BE SENT UNTIL THIS FORM IS RECEIVED.**

SIGN  
HERE

Signature of  
U.S. person ►

Date ►



## CITY OF BLOOMINGTON ELECTRONIC FUNDS TRANSFER FORM (EFT)

**THE CITY'S REQUIRED METHOD OF PAYMENT IS EFT**  
(Electronic Funds Transfer)  
**PLEASE COMPLETE THE SECTION BELOW TO ENROLL**

Your Name		1001
Your Address		
DATE		
PAY TO THE ORDER OF		\$
		DOLLARS
Your Bank Name		
MEMO		
123456789	0000987654321	1001
9 Digit Routing Number	Your Account Number	Check Number

### **EFT INFORMATION**

Bank Name:	
Type of Account:	<input type="checkbox"/> Checking <input type="checkbox"/> Savings
Routing Number:	
Account Number:	
Name of Account:	
Email for Payment Notification:	

### **REFERENCES FOR SOLE PROPRIETORS & PARTNERSHIPS**

Name:	Address:
Phone:	Email:

Name:	Address:
Phone:	Email:

Name:	Address:
Phone:	Email:

### **BILLING INFORMATION**

Payment Remittance		
Address (PO Box)		
Address (Physical)		
City	State	Zip
Person to Contact		
Email		
Phone		

## **ESCROW AGREEMENT**

### **City of Bloomington Utilities Department**

THIS ESCROW AGREEMENT is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, by and between the City of Bloomington, Indiana, Utilities Service Board (the "City"), and \_\_\_\_\_, (the "Contractor"), and First Financial Bank, an Ohio state chartered bank (the "Escrow Agent").

WHEREAS, the City and Contractor entered into an Agreement Between dated the \_\_\_\_\_ day of \_\_\_\_\_, in the amount of \$100,000.00 or more, for the construction of a public works project (the "Construction Agreement"); and,

WHEREAS, said Construction Agreement provides that portions of payments by City to Contractor shall be retained by City (the "Retainage") and shall be placed in the escrow account created hereby.

#### **NOW, THEREFORE, IT IS AGREED AS FOLLOWS:**

To the extent that the City retains funds out of payments applied for by the Contractor under the provisions of the Construction Agreement providing for payments based on the value of the work in place and the materials stored, the City shall place the funds so retained in an escrow account. Such deposit shall be made within three (3) business days after the date such payments are made to Contractor.

The Escrow Agent shall open a "Money Market" account that invests primarily in short-term, interest bearing bank deposit accounts, and/or investment grade securities and deposit said Retainage promptly into the account; however the Escrow Agent makes no representation as to the yield of such investment and will not bear liability for any delays in depositing the Depositor or for any failure to achieve the maximum possible yield from such Deposit..

The income from and earnings on and all gains derived from the investment and reinvestment of the funds (escrow income) shall be held in the escrow account. The Escrow Agent shall deposit all funds and hold all investments in a specific escrow fund so that a quarterly accounting can and shall be made to the Contractor of all investments made in such funds and all income, fees, payments, deposits, and other activities related to the escrow funds.

The Deposit, less any and all transaction or account fees or charges and out-of-pocket expenses of Escrow Agent attributable to, or incurred in connection with, the deposit thereof in accordance with the terms of this Agreement which items may be deducted by the Escrow Agent from the Deposit as set forth below (such net sum being the "Net Deposit"), will be delivered by Escrow Agent in accordance with the terms of this Escrow Agreement to the person or persons entitled thereto or, herein, to a substitute impartial party or a court of competent jurisdiction. Escrow Agent agrees to provide the Parties with copies of each monthly statement for the Escrow Account for the period for which the Deposit is held by Escrow Agent. As a condition to the delivery of any funds constituting part of the Deposit, Escrow Agent may require from the recipient a receipt therefor and, upon final payment or disposition, may require its release from any liability arising out of the execution or performance hereof, such release to be in a form reasonably satisfactory to Escrow Agent.

The Escrow Agent shall pay over the net sum held by it hereunder as follows:

The Escrow Agent shall hold all of the escrow funds and shall release the principal, Net Deposit, plus any accrued interest thereon, less any expenses, including but not limited to attorneys' fees, thereof only upon the execution and delivery to it of a Payment Certificate attached here as Exhibit A, executed by the City and by the Contractor specifying the portion or portions of the principal of the escrow funds to be released and the person or persons to whom such portions are to be released. After receipt of said Payment Certificate the Escrow Agent shall remit the designated part of escrowed principal and the same proportion of the escrowed income to the person(s) specified in the Payment Certificate. Such release of escrow funds shall be no more than thirty (30) days from the date of receipt by the Escrow Agent of the release executed by the City and Contractor.

Although statutorily entitled to a fee, the Escrow Agent agrees to waive the monthly statement fee and the monthly minimum balance.

All income earned on the escrowed principal shall be paid to the Contractor.

In lieu of the presentation of the Payment Certificate described above, any document purporting to be a certificate will be deemed by the Escrow Agent to be a proper certificate, or will suffice as a joint instruction, if it contains: (i) the name of the payee; (ii) the amount of the payment to be made; (iii) the manner of payment (i.e., by certified or cashier's check, by account-to-account transfer, or by wire transfer, whichever is applicable); and (iv) the signatures of each of the parties hereto, excluding the Escrow Agent.

Escrow Agent will be entitled to rely upon the authenticity of any signature (and upon any facsimile of a signature as if it were an original signature) and the genuineness and/or validity of any writing received by Escrow Agent from either of the Parties pursuant to or otherwise relating to this Escrow Agreement.

Each signatory to this Escrow Agreement warrants that it has full and complete authority to enter into this Escrow Agreement.

The Escrow Agent may at any time request written instructions from the Parties with respect to the interpretation hereof or of action to be taken or suffered or not taken hereunder and, notwithstanding any other provision hereof, will be entitled to withhold (and will not be under any liability to any person for withholding) action hereunder until it has received written instructions signed by all of the Parties.

In the event of the receipt by the Escrow Agent of any notice, demand, or certificate not provided for or in compliance with this Escrow Agreement or of any inconsistent or conflicting notices or certificates, the Escrow Agent will be protected in taking no action whatsoever with reference to any such notice or demand, unless such inaction constitutes gross negligence or willful misconduct on the part of the Escrow Agent. In case of: (i) receipt of contradictory instructions from the Parties; (ii) any dispute as to any matter arising under this Agreement; or (iii) any uncertainty as to the meaning or applicability of any of the provisions hereof, Escrow Agent may, at its option at any time thereafter, deposit the Deposit and/or documents or assets then being held by it in escrow into a court having appropriate jurisdiction, or take such affirmative steps as it may elect in order to substitute an impartial bank of comparable financial and industrial standing to hold the Deposit and/or documents and will thereby be discharged and relieved of any and all liability hereunder.

The Escrow Agent may resign at any time by giving a minimum of thirty (30) days' prior written notice of resignation to the Parties, such resignation to be effective on the date specified in such notice. The Deposit, and any other assets held by the Escrow Agent under the terms of this Escrow Agreement as of the effective date of the resignation, will be delivered to a successor escrow agent designated in writing jointly by the Parties. If no successor escrow agent has been appointed as of the effective date of the resignation, all obligations of the Escrow Agent hereunder will nevertheless cease and terminate, except that the Escrow Agent's sole responsibility thereafter will be to keep safely the Deposit then held by it and

to deliver the same to a person designated by both Parties or in accordance with the direction of a final order or judgment of a court of competent jurisdiction.

The Escrow Agent has no responsibility concerning compliance by the Parties with their duties to each other under this Escrow Agreement or any other agreements. Escrow Agent will have only such duties and obligations as are specifically imposed upon it by the terms and conditions of this Escrow Agreement and no implied duties or obligations will be read into this Escrow Agreement against Escrow Agent.

The Parties, jointly and severally, agree to indemnify and hold harmless Escrow Agent from and against any and all costs including its attorney's fees, claims or damages howsoever occasioned that may be incurred by Escrow Agent acting under this Escrow Agreement or to which Escrow Agent may be put in connection with Escrow Agent acting under this Escrow Agreement, except for costs, claims or damages arising out of Escrow Agent's willful misconduct or gross negligence. Following thirty (30) days' notice to each of the Parties, Escrow Agent may charge against the Deposit any amounts still owed to Escrow Agent and may withhold payment of the Deposit as security for any unliquidated claim.

In the absence of such a joint written authorization and in the absence of the termination of the Contractor as provided above, the escrowed funds shall be paid in the manner directed by a certified copy of a judgment of a court of record establishing the rights of the parties to said funds.

The account shall be a commercial money market account set up by the Escrow Agent to hold the retainage and there shall be no fees and no minimum balance required. The account shall earn interest rate based on balances. The Parties agree to reimburse Escrow Agent for all reasonable expenses, disbursements and advances incurred or made by Escrow Agent in the performance of its duties hereunder (including reasonable fees, expenses and disbursements of its counsel).

The Escrow Agent will not be required to use its own funds in the performance of any of its obligations or duties or the exercise of any of its rights or powers, and will not be required to take any action which in Escrow Agent's reasonable judgment would cause it to incur expense or liability unless furnished with security and indemnity which it reasonably deems to be satisfactory.

This Agreement and anything done or performed hereunder by either the Contractor or City shall not be construed to prejudice or limit the claims which either party may have against the other arising out of the aforementioned Construction Agreement.

This instrument constitutes the entire agreement between the parties regarding the duties of the Escrow Agent with respect to the investment and payment of escrow funds. The Escrow Agent is not liable to the City and Contractor for any loss or damages, other than loss or damage directly caused by Escrow Agent's own gross negligence or willful misconduct.

This Escrow Agreement may be amended, modified, superseded, cancelled, renewed or extended, and the terms or covenants hereof may be waived only by a written instrument executed by all the parties hereto.

This Escrow Agreement contains the entire agreement between the parties with respect to the escrow transaction contemplated herein and may not be changed or terminated orally.

This Escrow Agreement will be governed by and construed in accordance with the laws of the State of Ohio, without regard to conflict of law principles.

This Escrow Agreement will be binding upon and inure solely to the benefit of the parties hereto and their respective heirs, administrators, successors and assigns, and will not be enforceable by or inure to the benefit of any third party, except any successor escrow agent. No party may assign any of its rights or



obligations under this Escrow Agreement without the written consent of the other parties, except that either of the Parties may assign its rights and obligations hereunder in connection with a permitted assignment of its rights and obligations under the Agreement in which case any signatures required hereunder will be those of such assignee.

This Escrow Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed will be deemed to be an original and all of which taken together will constitute one and the same agreement. Any party so executing this Agreement by facsimile transmission shall promptly deliver a manually executed counterpart, provided that any failure to do so shall not affect the validity of the counterpart executed by facsimile transmission.

All notices, waivers, consents, approvals and other communications hereunder shall be in writing and shall be deemed to have been properly given on the date of service if delivered personally or on the date of mailing if deposited in the United States mail, first class postage prepaid, to the extent required by applicable law, and will comply with the requirements of the Uniform Commercial Code then in effect, addressed appropriately as follows:

If to City:

City of Bloomington Utilities Service Board  
600 E. Miller Dr.  
Bloomington IN 47401  
Attn: Amanda Burnham,  
President

If to Escrow Agent:

First Financial Bank  
536 N. College Ave.  
Bloomington, IN 47404  
Attn:

If to Contractor:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State: \_\_\_\_\_  
Attn: \_\_\_\_\_

In Witness Whereof, the undersigned have executed this Escrow Agreement as of the day and year first above written.

**CITY:**

City of Bloomington  
Utilities Service Board

By: \_\_\_\_\_  
Amanda Burnham, President

**CONTRACTOR:**

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Tax I.D. No.: \_\_\_\_\_

**ESCROW AGENT:**

First Financial Bank

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Updated January 10, 2023

To: Prospective Bidders/Vendors/Grant recipients

RE: Affirmative Action, Harassment Policy, Living Wage Ordinance and Drug Testing Policy

FROM: Audrey R. Brittingham, Assistant City Attorney/ Contract Compliance Officer

**AFFIRMATIVE ACTION:** All bidders, vendors and grant recipients with the City of Bloomington for projects in excess of \$10,000.00 must submit an affirmative action plan to the City Legal Department. This plan must insure applicants and employees are treated in a manner that provides equal employment opportunity and tends to eliminate inequality based upon race, religion, color, sex, national origin, ancestry, disability, sexual orientation, gender identity, veteran status and/or housing status.

Even if your company already has a plan on file with the City, you must check with City Legal to make sure it complies with the City's current requirements, including having a workforce breakdown form that is no more than six months out of date. If you already have a plan, but it does not cover all of the City's current requirements, you may submit a separate supplement with your plan to fill any gaps.

You must submit your written affirmative action plan (or supplement) to City Legal **at least twenty-four hours** before the bid, quote or proposal deadline. You must submit your plan to the Legal Department **separately** from your bid or quote. Twenty-four hours will give legal sufficient time to review your and the other plans. I recommend you submit your affirmative action plan to the Legal Department earlier, if possible, so there will be sufficient time to work out any problems that may be in your plan. Bidders who fail to submit acceptable plans by the deadline are subject to disqualification.

We strongly advise you to confirm that the City Legal Department has received your plan and that it meets our requirements well before the submittal deadline. We will make every effort to work with you to clear up any problems. However, it remains your responsibility to confirm that we have received your plan and that it complies with our requirements. If you fail to confirm that we have received and approved your plan, you risk losing your eligibility to submit a bid or quote. We will be glad to provide a receipt upon request. Please let us know if you want a receipt when you submit your plan.

You must insure all of the required protected classes listed above are included in your plan. In addition to other requirements, your plan **MUST** include a current workforce breakdown, an internal grievance procedure, a non-retaliation statement, designation of a person by name or position who is responsible for implementing the plan, applicability to both applicants and employees, recruitment of minorities, equal access to training programs, and an explanation of your methods of communicating the operations of your affirmative action plan to your employees and prospective applicants.

Accompanying this letter you will find the following materials:

1. A workforce breakdown form. You **MUST** submit a workforce breakdown form (sometimes called a "utilization report") with your affirmative action plan. This form is provided for your convenience. If you already have a current form you have completed for another jurisdiction that includes the same type of information, you may submit a copy of that form instead of using our form. Your workforce breakdown data cannot be more than six months old. Even if you already have an acceptable affirmative action plan

on file with the City, you should submit a new workforce breakdown each time you bid for a city contract, to be sure we have up-to-date figures.

2. An affirmative action plan checklist. We will use this checklist to review your affirmative action plan. If you compare your plan with this list, you should be able to tell whether your plan fulfills the City's requirements. If your plan omits any elements on the checklist, your plan will not be approved.
3. A sample affirmative action plan that you may amend and adopt as your own.

These documents may be useful if your company has not designed an affirmative action plan before. Feel free to adopt this plan as your own or to amend it to meet your needs.

Additional materials, such as the City of Bloomington's Contract Compliance Regulations, are available from the Legal Department upon request.

**HARASSMENT POLICY:** All bidders and vendors required to submit an affirmative action plan now must also submit a harassment plan. The harassment plan must, at minimum, include a definition of harassment, the name or title of the individual designated to receive and investigate complaints and a statement that the contractor will not retaliate against an employee for complaining about harassment. A model harassment policy is included for your convenience as part of our attached model affirmative action plan, which you may amend and adapt as your own. **Please note that this harassment policy requirement is fairly new, adopted by the Bloomington Common Council in June, 2019.**

**LIVING WAGE:** Also, please be aware that you may be required to comply with the Bloomington Living Wage Ordinance. Whether the LWO applies to your project depends upon the size and type of your project and the number of people you employ. If you have questions about the applicability of the LWO, contact the Legal Department. For 2023, the living wage for covered employees is \$15.29 an hour.

**DRUG TEST POLICY:** Finally, please be aware that if you are submitting a bid for a public works project with an estimated cost of \$150,000.00 or more, you will need to submit your company's written drug testing plan with your bid. Your plan must comply with I.C. 4-13-18-1. Failure to do so may make you ineligible to be awarded a bid or contract. Please see your bid packet for more details.

If you have any questions, contact the City's Legal Department at 812.349.3426 or email the City at [legal@bloomington.in.gov](mailto:legal@bloomington.in.gov). The office hours are Monday through Friday, 8-5.

Thank you.

## Model Affirmative Action Plan and Harassment Policy

\_\_\_\_\_, declares its policy to provide equal opportunity in employment, training and advancement, and to administer its employment practices without regard to race, color, religion, sex, national origin, ancestry, disability, sexual orientation, gender identity, veteran status, or housing status. Our policy of nondiscrimination will prevail throughout every aspect of our employment practices, including recruitment, hiring, training and all other terms and conditions of employment. We shall implement this affirmative action plan to make it widely known that equal employment opportunities are available on the basis of individual merit. We shall survey and analyze our employment workforce annually to determine what steps, if any, are needed to conform effectively to this equal employment policy.

### Responsible Officer

Mr. or Ms. \_\_\_\_\_ (or the \_\_\_\_\_ officer)  
is the equal employment opportunity officer for our company and is responsible for implementing this affirmative action policy.

### Publication of Policy

Our employees will be made aware of our commitment to affirmative action through the following procedures:

- posting notices on employee bulletin boards,
- including our policy statement and plan in our personnel manual,
- regularly sending out notices of our policy in paycheck envelopes, and/or
- training supervisors to recognize discriminatory practices.

We will make potential employees aware of our policy through the following procedures:

- including the words "Equal Opportunity Employer" in all of our advertisements and notices for job openings,
- notifying employment agencies about our commitment, and
- sending notice of our policy to unions.

### Implementing Our Policy

Our affirmative action plan will be implemented by widening our recruitment sources. We shall advertise in newspapers and other media that reach people in protected classes. We shall send job notices to schools with large percentages of students in the protected classes and to local groups that serve these classes.

We shall examine our hiring practices periodically to insure that we consider only job-related qualifications in filling our positions. We shall discard irrelevant educational requirements and unnecessary physical requirements. We shall ask only job-related questions on our employment applications.

We shall keep affirmative action information on each applicant who voluntarily provides this information, but separate from his or her application. We shall keep records on our hiring decisions to evaluate the success of our affirmative action measures. We shall decide placement, duties, benefits, wages, training prospects, promotions, layoffs and terminations without regard to race, sex, religion, color, national origin, ancestry, disability, sexual orientation, gender identity, veteran status or housing status.

## GRIEVANCE PROCEDURE

If an employee or applicant feels she or he has been discriminated against on the basis of race, sex, religion, color, national origin, ancestry, disability, sexual orientation, gender identity, veteran status or housing status, she or he may bring the complaint to her or his immediate supervisor. If the complaint is not resolved readily at that level, she or he may submit it to \_\_\_\_\_ (personnel officer, corporate president, other) who will make a final decision on its validity. This grievance process does not preclude him or her from complaining to local, state or federal civil rights agencies. We will not retaliate against an employee or applicant for voicing a grievance or for filing a complaint with the appropriate agency.

**Our current workforce breakdown is shown on the attached form.**

### Policy prohibiting harassment in the workplace

It is the policy of \_\_\_\_\_ (company name) to maintain a workplace free of harassment on the basis of race, sex, color, ancestry, national origin, religion, disability, age, sexual orientation, gender identity, housing status or veteran status. Harassment, as defined herein, is strictly prohibited in the workplace, and is punishable by appropriate discipline up to and including termination.

Harassment means any unwelcome or offensive conduct, whether written, verbal or physical, which is

- (a) directed at or to an employee because of his or her actual or perceived race, sex, color, ancestry, national origin, religion, disability, age, sexual orientation, gender identity, housing status or veteran status or
- (b) directed toward any person concerning an individual, or a class of individuals, because of the race, sex, color, ancestry, national origin, religion, disability, age, sexual orientation, gender identity, housing status or veteran status of the individual or class of individuals. For example, racial or ethnic slurs or derogatory epithets are prohibited in the workplace, regardless of whether a member of the racial or ethnic group is present when the statement is made.

Harassment does not refer to occasional compliments or other statements of a socially acceptable nature. Harassment refers to behavior which is unwelcome and which is offensive and/or persistent enough to create, or has the potential of creating an intimidating, hostile or offensive working environment for any employee. Harassment includes unwelcome sexual advances or requests for sexual favors, unwelcome touching of a sexual nature and unwelcome and/or offensive sexual comments.

- 2. This policy applies to all full-time, part-time, permanent and temporary employees, including supervisors and department heads, as well as to volunteers.
- 3. It is a violation of this policy to use an individual's submission to or rejection of harassing conduct as the basis for any employment decision affecting the individual.
- 4. An employee who believes she, he or they have been subjected to harassment as defined in this policy shall promptly report the harassment to her, his or their supervisor and/or the director of human resources or designee. \_\_\_\_\_ (company name) will make reasonable efforts to insure that a human resources representative of each sex is available to receive such complaints. The human resources department shall conduct a thorough and prompt investigation and, if appropriate, take disciplinary action against any offender, including but not limited to discharge. Staff will keep the complaint as confidential as reasonably possible. No one will be retaliated against for filing a harassment complaint.

5. All supervisory personnel who observe or otherwise learn of or have reason to suspect any conduct which may violate this policy shall promptly report such facts to the director of human resources or designee, and shall cooperate fully in any investigation or disciplinary action undertaken pursuant to this policy. Failure to comply with this section shall be grounds for appropriate disciplinary action, up to and including termination.
6. \_\_\_\_\_ (company name) will provide regular training to employees and supervisors on the subject of harassment in the workplace. We will include information about this policy in our orientation and in our personnel policy. A copy of this policy will be posted on a prominent bulletin board. We take this matter seriously and will do all that is reasonably necessary to maintain a harassment-free workplace for our employees.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## WORKFORCE BREAKDOWN FORM

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

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REPRESENTATIVE: \_\_\_\_\_

PHONE: \_\_\_\_\_

E-MAIL ADDRESS: \_\_\_\_\_

[illegible]

I swear or affirm under penalties of perjury that this workforce breakdown is accurate, to the best of my knowledge.

Signature and Title of Representative:

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Date: \_\_\_\_\_



## AFFIRMATIVE ACTION PLAN AND HARASSMENT POLICY CHECKLIST

NOTE: This is **not** an Affirmative Action Plan

Company Name: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Contractor: Plan MUST Include:		Yes	No	Comments:
Policy statement of equal employment opportunity		<input type="checkbox"/>	<input type="checkbox"/>	
<b>Covers:</b>	Applicants for employment	<input type="checkbox"/>	<input type="checkbox"/>	
	Employees	<input type="checkbox"/>	<input type="checkbox"/>	
<b>On basis of:</b>	Race	<input type="checkbox"/>	<input type="checkbox"/>	
	Religion	<input type="checkbox"/>	<input type="checkbox"/>	
	Color	<input type="checkbox"/>	<input type="checkbox"/>	
	Sex	<input type="checkbox"/>	<input type="checkbox"/>	
	National Origin	<input type="checkbox"/>	<input type="checkbox"/>	
	Ancestry	<input type="checkbox"/>	<input type="checkbox"/>	
	Disability	<input type="checkbox"/>	<input type="checkbox"/>	
	Sexual Orientation	<input type="checkbox"/>	<input type="checkbox"/>	
	Gender Identity	<input type="checkbox"/>	<input type="checkbox"/>	
	Veteran Status	<input type="checkbox"/>	<input type="checkbox"/>	
	Housing Status	<input type="checkbox"/>	<input type="checkbox"/>	
	Designates a person responsible for implementation of the Plan		<input type="checkbox"/>	<input type="checkbox"/>
<b>Provides for communication of the policy:</b>				
Within the Organization		<input type="checkbox"/>	<input type="checkbox"/>	
Outside the Organization		<input type="checkbox"/>	<input type="checkbox"/>	
(e.g., recruitment sources, unions)				
Applies to all terms and conditions of employment (e.g., hiring, placement, promotion, duties, wages, benefits, use of facilities, layoff, discipline, termination)		<input type="checkbox"/>	<input type="checkbox"/>	
Provision for: Recruitment from minority groups		<input type="checkbox"/>	<input type="checkbox"/>	
Provision for: Equal access to training programs		<input type="checkbox"/>	<input type="checkbox"/>	
Grievance Procedure		<input type="checkbox"/>	<input type="checkbox"/>	
Prohibits retaliation for filing grievances		<input type="checkbox"/>	<input type="checkbox"/>	
Workforce Breakdown		<input type="checkbox"/>	<input type="checkbox"/>	
(figures up to date within 6 months)				
<b>HARASSMENT POLICY CHECKLIST</b>				
Definition of harassment		<input type="checkbox"/>	<input type="checkbox"/>	
Designates a person to receive and Investigate harassment complaints		<input type="checkbox"/>	<input type="checkbox"/>	
Prohibits retaliation for filing a harassment complaint		<input type="checkbox"/>	<input type="checkbox"/>	



## Living Wage Ordinance Certification

Employer's Name: \_\_\_\_\_

Employer's Address: \_\_\_\_\_

Employer's Phone Number: \_\_\_\_\_

Employer's Email Address: \_\_\_\_\_

Job title(s) of Covered Employees: \_\_\_\_\_

(use additional sheet if necessary)

Do you pay all covered employees at least the living wage (for 2023, \$15.29 per hour) for work done in connection with the City assistance or subsidy? Yes \_\_\_\_\_ No \_\_\_\_\_

If not, do the covered employees have access to a health insurance plan sponsored by you? Yes \_\_\_\_\_ No \_\_\_\_\_

If you don't pay all of your covered employees at least the living wage, and your covered employees have access to a health insurance plan that you sponsor, please answer the following questions:

- What is the hourly equivalent value of your contribution to the health insurance plan on behalf of the covered employees who chose to participate in your health insurance plan? (To determine this, divide your annual contribution per employee by 2080.) \$ \_\_\_\_\_
- If the covered employee chose not to participate in your health insurance plan, but could have done so, then what would have been the hourly equivalent value of your contribution to the health insurance plan? (Again, divide your annual contribution by 2080). \$ \_\_\_\_\_

I hereby attest that the information I've provided above is truthful and accurate. I hereby attest that I am aware of the provisions of the Living Wage Ordinance chapter of the Bloomington Municipal Code.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Office held

This form must be filed in the first quarter of the year following that in which the living wage ordinance applies. Send completed form to the Contract Compliance Officer, PO Box 100, Bloomington, IN 47402-0100, or fax to 349-3441.

## PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

### CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

### BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

### CONTRACTOR AS PRINCIPAL

### SURETY

\_\_\_\_\_  
Contractor's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_  
Signature

Attest: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

**Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.**

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence,

to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

#### 14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims

for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

## PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

### CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

### BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

### CONTRACTOR AS PRINCIPAL

### SURETY

\_\_\_\_\_  
*(seal)*

Contractor's Name and Corporate Seal

By: \_\_\_\_\_

Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_

Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
*(seal)*

Surety's Name and Corporate Seal

By: \_\_\_\_\_

Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

Attest: \_\_\_\_\_

Signature

\_\_\_\_\_  
Title

**Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.**

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
  - 5.1 Claimants who do not have a direct contract with the Contractor,
    - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2 Pay or arrange for payment of any undisputed amounts.
  - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
- 16.1 **Claim:** A written statement by the Claimant including at a minimum:
1. The name of the Claimant;
  2. The name of the person for whom the labor was done, or materials or equipment furnished;
  3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
  4. A brief description of the labor, materials, or equipment furnished;
  5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
  6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
  7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:



This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

## STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



Endorsed by



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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer



has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
    - a. does not conform to the Contract Documents; or
    - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
    - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## **ARTICLE 2 – PRELIMINARY MATTERS**

### **2.01 *Delivery of Bonds and Evidence of Insurance***

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
  1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
  2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

#### 2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

#### 2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
  1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
  2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
  3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

#### 2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

### **ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

#### **3.01 *Intent***

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

#### **3.02 *Reference Standards***

- A. Standards Specifications, Codes, Laws and Regulations
  - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
  - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

#### **3.03 *Reporting and Resolving Discrepancies***

- A. *Reporting Discrepancies:*
  - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.



### 3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
  - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

## **ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK**

### 4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

### 4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

### 4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
  1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  2. abnormal weather conditions;
  3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
  4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

## **ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

### **5.02 *Use of Site and Other Areas***

#### **A. *Limitation on Use of Site and Other Areas:***

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

### 5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
  - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
  - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
  - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
  2. is of such a nature as to require a change in the Drawings or Specifications; or
  3. differs materially from that shown or indicated in the Contract Documents; or
  4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
    - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
  - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
  - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
  - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
  1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
  2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
    - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
    - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
    - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
    - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
    - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
    - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
    - d. Contractor gave the notice required in Paragraph 5.05.B.
  - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
  - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
  2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.



- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 6 – BONDS AND INSURANCE

### 6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

#### 6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
  - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
  - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
  2. claims for damages insured by reasonably available personal injury liability coverage.
  3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
    - a. Such insurance shall be maintained for three years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
  2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
  3. Broad form property damage coverage.
  4. Severability of interest.
  5. Underground, explosion, and collapse coverage.
  6. Personal injury coverage.
  7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
  8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
  - 1. include at least the specific coverages provided in this Article.
  - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
  - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
  - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
  - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

#### 6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

#### 6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
  - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
  - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
  - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
  - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
  6. extend to cover damage or loss to insured property while in transit.
  7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
  8. allow for the waiver of the insurer's subrogation rights, as set forth below.
  9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
  10. not include a co-insurance clause.
  11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
  12. include performance/hot testing and start-up.
  13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

#### 6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
  - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
  - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

#### 6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the



policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

## **ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES**

### **7.01   *Supervision and Superintendence***

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

### **7.02   *Labor; Working Hours***

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

### **7.03   *Services, Materials, and Equipment***

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that:
      - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
      - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
      - 3) it has a proven record of performance and availability of responsive service; and
      - 4) it is not objectionable to Owner.
    - b. Contractor certifies that, if approved and incorporated into the Work:
      - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
      - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

#### 7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
  - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
  - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
  - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
    - a. shall certify that the proposed substitute item will:
      - 1) perform adequately the functions and achieve the results called for by the general design,
      - 2) be similar in substance to that specified, and
      - 3) be suited to the same use as that specified.
    - b. will state:
      - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
      - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
      - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
    - c. will identify:
      - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

#### 7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

#### 7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

#### 7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
  - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
  - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
  - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
  - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
  - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
  - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

#### 7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

#### 7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or



exchanged between or among employers at the Site in accordance with Laws or Regulations.

#### 7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

#### 7.16 *Shop Drawings, Samples, and Other Submittals*

##### A. *Shop Drawing and Sample Submittal Requirements:*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
  - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
  - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
  - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
  1. observations by Engineer;
  2. recommendation by Engineer or payment by Owner of any progress or final payment;
  3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  4. use or occupancy of the Work or any part thereof by Owner;
  5. any review and approval of a Shop Drawing or Sample submittal;
  6. the issuance of a notice of acceptability by Engineer;
  7. any inspection, test, or approval by others; or
  8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

#### 7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
  - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
  - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

#### 7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

## **ARTICLE 8 – OTHER WORK AT THE SITE**

### **8.01 *Other Work***

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

## 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

## 8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

## **ARTICLE 9 – OWNER'S RESPONSIBILITIES**

### **9.01    *Communications to Contractor***

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### **9.02    *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

### **9.03    *Furnish Data***

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### **9.04    *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

### **9.05    *Lands and Easements; Reports, Tests, and Drawings***

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

### **9.06    *Insurance***

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

### **9.07    *Change Orders***

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

**ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during



or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

#### 10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

### **ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK**

#### 11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
  - 1. *Change Orders:*
    - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
    - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
  - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

#### 11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
  1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
  2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
  3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
  2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
    - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
    - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
    - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
    - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
    - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

#### 11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

#### 11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
  2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
  3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

#### 11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
  2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
  4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

#### 11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

### ARTICLE 12 – CLAIMS

#### 12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
  - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
  - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
  - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
  - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

## **ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### **13.01 Cost of the Work**

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
  2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
  1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
  - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
  - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
  - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes



other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

## 13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
  - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
  - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

### 13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
  - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

## **ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### **14.01 Access to Work**

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

### **14.02 Tests, Inspections, and Approvals**

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
  - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  - 3. by manufacturers of equipment furnished under the Contract Documents;
  - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

## **ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

### **15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
  - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
  - 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
  - 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
  - 1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
  - 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
  - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. the Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. the Contract Price has been reduced by Change Orders;
  - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
  - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount



remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

#### 15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

#### 15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
  - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
  - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
  - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
  - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *Final Payment*

- A. *Application for Payment:*
  - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all disputes that Contractor believes are unsettled; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

**B. *Engineer's Review of Application and Acceptance:***

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

**C. *Completion of Work:*** The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

**D. *Payment Becomes Due:*** Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

#### 15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

#### 15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such other adjacent areas;
  - 2. correct such defective Work;
  - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## **ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION**

### **16.01 *Owner May Suspend Work***

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

#### 16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## **ARTICLE 17 – FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
  - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or
  - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18 – MISCELLANEOUS**

### **18.01 *Giving Notice***

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
  - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
  - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

### **18.02 *Computation of Times***

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

### **18.03 *Cumulative Remedies***

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.



SECTION 00 73 00  
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2013 Rev.1 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the general Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC1.01 Defined Terms

Delete and replace definitions 2, 20, and 28 in Paragraph 1.01 A. of the General Conditions with the following:

2. *Agreement* - The written instrument, executed by the Owner and Contractor, which identifies the parties and the Engineer and sets forth the scope of the Work, Contract Price, Contract Times, and designates the specific items that are Contract Documents. The term "Agreement" shall be interchangeable and have the same meaning in the Contract Documents with the terms "Contract" and "Construction Contract".

20. *Engineer* – The individual or entity named as such in the Agreement. The term "Engineer" and "Owner" shall be interchangeable and have the same meaning in the Contract Documents.

28. *Owner* – The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed. The terms "Owner" and "Engineer" are interchangeable and shall have the same meaning in the Contract Documents.

SC-2.02 Copies of Documents

Delete paragraph 2.02 A. of the General Conditions in its entirety and insert the following in its place:

Owner shall furnish to Contractor one copy of the Contract Documents in electronic portable document format (PDF).

SC-2.03 *Before Starting Construction*

Add the following new paragraph after 2.03 A.:

B. E-Verify Reporting: Contractor shall be solely responsible for complying with the E-Verify Reporting requirements in IC 5-16-13-11 throughout the contract time. Before starting construction Contractor shall collect and submit the E-Verify case

verification numbers for each individual who will be working on the project and who is required to be verified under IC 22-5-1.7 (effective July 1, 2011), from all contractors of any tier (as defined in IC 5-16-13-4).

*SC-4.01 Commencement of Contract Times; Notice to Proceed*

Delete paragraph 4.01 A. of the General Conditions in its entirety and insert the following in its place:

- A. The Contract Times shall commence on the day stated in the in the Notice to Proceed. A Notice to Proceed will be given at any time and no later than 30 days from the Effective Date of the Agreement.

Computation of Contract Time shall commence on the start date given in the Notice to Proceed, and every calendar day following, except as herein provided, shall be counted as Contract Time, in accordance with Article 18.02.

*SC-11.01 Amending and Supplementing Contract documents*

Delete paragraph 2. *Work Change Directives* of the General Conditions in its entirety.

Delete paragraph 3. *Field Orders* of the General Conditions in its entirety.

*SC-6.02 Insurance - General Provisions*

Append the following sentence to 6.02 C.:

The Contractor's Certificates of Insurance shall name the Owner and the Engineer as additionally insured. The Certificate of Insurance shall clearly state the insurance coverage required is in effect and has not been decreased by claims, if any, paid by the Insurance Company. The Contractor's insurance shall not be canceled or expire without the written consent of the Owner. The insurance afforded to these additional insured shall provide primary and non-contributory coverage for all claims covered thereby.

*SC-6.03 A. Workers' Compensation*

Add the following new paragraph after 6.03 A. 4.:

5. The liability limits shall not be less than:

State Workers' Compensation	Statutory
Employers' Liability	Statutory

*SC-6.03 C. Commercial General Liability – Form and Content*

Add the following new paragraph after 6.03 C. 8.:

9. The liability limits shall not be less than:

General Aggregate	\$2,000,000 each occurrence
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Products-Completed Operations Aggregate	\$2,000,000 each occurrence
Each Occurrence (BI-PD)	\$1,000,000
Property Damage liability insurance will provide explosion, collapse, and underground coverages	\$1,000,000
Fire Damage (each occurrence)	\$50,000
Medical expense (per person)	\$5,000
Excess or Umbrella Liability	
General Aggregate	\$5,000,000
Each Occurrence	\$5,000,000

#### SC-6.03 D. *Automobile Liability*

Append the following sentence to the end of 6.03 D.:

The liability limits shall not be less than:

Bodily Injury	
Each Person	\$1,000,000
Each Accident	\$1,000,000
Property Damage	
Each Accident	\$1,000,000
Combined Single Limit of	\$1,000,000
Excess or Umbrella Liability	
General Aggregate	\$5,000,000
Each Occurrence	\$5,000,000

#### SC-6.03 E. *Umbrella or Excess Liability*

Append the following sentence to the end of 6.03 E.:

The liability limits shall not be less than:

General Aggregate	\$5,000,000
Each Occurrence	\$5,000,000

#### SC-7.09 *Taxes*

Add the following new paragraph after paragraph 7.09 A.

- B. Owner is exempt from sales tax on products permanently incorporated in the work. Contractor may obtain sales tax exemption for such materials, products, and equipment and shall obtain an Indiana Sales Tax Exception Certificate from the City of Bloomington Utilities.

END OF SECTION 00 73 00

**DIVISION 01**  
**GENERAL REQUIREMENTS**

## SECTION 01 10 00 - SUMMARY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Contract description.
2. Work by Owner or other Work at the Site.
3. Contractor's use of Site and premises.
4. Work sequence.
5. Owner occupancy.
6. Permits.
7. Specification conventions.

#### 1.2 CONTRACT DESCRIPTION

- A. Work of the Project includes relocation of water main as a result of road construction.
- B. Perform Work of Contract under fixed cost Contract with Owner according to Conditions of Contract.

#### 1.3 WORK BY OWNER OR OTHERS

- A. Coordinate work with INDOT Contractor.
- B. Coordinate Work with utilities of Owner and public or private agencies.
- C. Work under this Contract is as indicated on Drawings.

#### 1.4 CONTRACTOR'S USE OF SITE AND PREMISES

##### A. Limit use of Site and premises to allow:

1. Owner occupancy.
2. Work by Owner.
3. Work by Others.
4. Use of Site and premises by the public.

##### B. Construction Operations: Limited to areas indicated on Drawings

1. Noisy and Disruptive Operations (such as Use of Jack Hammers and Other Noisy Equipment): Not allowed in close proximity to existing building during regular hours of operation. Coordinate and schedule such operations with Owner to minimize disruptions.

##### C. Time Restrictions for Performing Work: Conform to County requirements.

D. Utility Outages and Shutdown:

1. Coordinate and schedule electrical and other utility outages with Owner.
2. Outages: Allowed only at previously agreed upon times.
3. At least one week before scheduled outage, submit Outage Request Plan to Owner itemizing the dates, times, and duration of each requested outage.

E. Sound Level Restrictions: Sound pressure level measured at boundary of Site shall not exceed 40 dBA.

F. Construction Plan: Before start of construction, submit three copies of construction plan regarding access to Work, use of Site, and utility outages for acceptance by Owner. After acceptance of plan, construction operations shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.5 WORK SEQUENCE

- A. Contractor shall coordinate all work activities with INDOT contractor and other utility contractors. Work shall be sequenced such that water and sanitary services are maintained. If service must be interrupted, the Contractor shall coordinate with the Owner at least one week prior.
- B. Sequencing of Construction Plan: Before start of construction, submit a construction plan regarding phasing of demolition and new Work for acceptance by Owner. After acceptance of plan, construction sequencing shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.6 OWNER OCCUPANCY

- A. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- B. Schedule the Work to accommodate Owner occupancy.

1.7 PERMITS

- A. Contractor shall furnish all necessary permits for construction of Work.
- B. A Notice of Intent to Construct a Water Main Extension has already been submitted.
- C. Contact Ben Ayers, Permits Engineer, Monroe County Highway Department, at (812)349-2559, [bayers@co.monroe.in.us](mailto:bayers@co.monroe.in.us), prior to beginning any work on the County right-of-way, including delivery of materials, placement of equipment, or beginning construction.

1.8 SPECIFICATION CONVENTIONS

- A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION



## SECTION 012000 - PRICE AND PAYMENT PROCEDURES

### 1.1 SECTION INCLUDES

- A. Defect Assessment.
- B. Unit prices
- C. Alternates.

### 1.2 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Owner.
- D. Defective Work will be partially repaired according to instructions of Engineer, and unit sum/price will be adjusted to new sum/price at discretion of Owner.
- E. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- F. Authority of Engineer and Owner to assess defects and identify payment adjustments is final.
- G. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
  - 1. Products wasted or disposed of in a manner that is not acceptable.
  - 2. Products determined as unacceptable before or after placement.
  - 3. Products not completely unloaded from transporting vehicle.
  - 4. Products placed beyond lines and levels of the required Work.
  - 5. Products remaining on hand after completion of the Work.
  - 6. Loading, hauling, and disposing of rejected products.

### 1.3 UNIT PRICES

- A. Measurement methods delineated in individual Specification Sections complement criteria of this Section.
- B. Take measurements and compute quantities. Owner will verify measurements and quantities.
- C. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.

1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.
  2. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
- D. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.
- E. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Architect/Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.
- F. Measurement of Quantities:
1. Weigh Scales: Inspected, tested, and certified by applicable State weights and measures department within past year.
  2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.
  3. Metering Devices: Inspected, tested, and certified by applicable State department within past year.
  4. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel, or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
  5. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
  6. Measurement by Area: Measured by square dimension using mean length and width or radius.
  7. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
  8. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.
- G. Unit Price Schedule:
1. Item 0001: Mobilization / Demobilization
    - a. Description: This item covers the mobilization and demobilization of construction equipment and personnel. Mobilization and demobilization shall include, but not necessarily be limited to: street cleaning; snow removal; dust and mud control; and all other incidentals not directly engaged in construction of the Project but which are necessary to support the Work.
    - b. Basis of Payment: Payment for this item shall be a Lump Sum (LS) quantity as shown in the Itemized Proposal and Declarations.
  2. Item 0002: Construction Engineering
    - a. Description: Construction Engineering shall include, but not necessarily be limited to: staking the water main alignment, establishing and maintaining surveying and project control; project management and supervision; participation in project meetings and public involvement; notices to the public; submittals, including value engineering proposals and requests for information, shop drawings; project scheduling; construction photographs; As-Built Drawings; and all other incidentals not directly engaged in construction of the Project but which are necessary to support the Work.

- b. Basis of Payment: Payment for this item shall be a Lump Sum (LS) quantity as shown in the Itemized Proposal and Declarations.
- 3. Item 0003: Maintenance of Traffic
  - a. Description: This Work shall consist of all labor, equipment, and materials necessary for traffic control to facilitate the Work of the project.
  - b. Basis of Payment: Payment for this item shall be a Lump Sum (LS) price as shown in the Itemized Proposal and Declarations.
- 4. Item 0004: Erosion Control
  - a. Description: This item shall consist of all labor, equipment, and materials necessary for erosion and sediment control on the project site.
  - b. Basis of Payment: Payment for this item shall be a Lump Sum (LS) price as shown in the Itemized Proposal and Declarations.
- 5. Item 0005: Clearing and Restoration
  - a. Description: This Work shall include all necessary labor and equipment necessary to adequately clear the site in preparation for project construction and seeding.
  - b. Basis of Payment: Payment for this item shall be a Lump Sum (LS) price as shown in the Itemized Proposal and Declarations.
- 6. Item 0006: Excavation, Rock
  - a. Description: Rock excavation shall include ledge rock, all boulders exceeding one-half (1/2) cubic yard in volume, and concrete or masonry structures or any other material which, in the opinion of the Engineer, requires drilling and blasting or use of hoe-ram for removal. Rock excavation will be measured in accordance with Section 4.5.1.2.1.2.4 of the City of Bloomington Utilities "Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects". Rock quantities will be calculated from measurements taken in the field by the Engineer or their representative, in consultation with the Contractor or their representative. Only rock that has been measured will be paid for as rock excavation under this item. Rock will be paid to the following limits: six inches (6") below all pipes and structures, seven inches (7") horizontal distance outside all pipes, and six inches (6") horizontal distance outside all structures. For rock depths of four feet or less, the trench width for payment purposes shall be outside diameter of the pipe plus 14 inches. For rock depths greater than four feet, the pay limit shall be outside diameter of the pipe plus 14 inches up to one foot above the top of the pipe, then increasing in one foot in width on each side of the trench for every three feet of increased depth. No payment will be made for rock that can be removed by scarification using the bucket of a backhoe or excavator.
  - b. Basis of Payment: Payment for this item shall be per cubic yard (CYS) of excavated rock as shown in the Itemized Proposal and Declarations.
- 7. Item 0007: Pipe, Remove or Abandon, Water Main, Ductile Iron, 6 in.
  - a. Description: Work under this item shall include the removal or abandonment of water main of the size specified measured by the linear foot, computed by multiplying the number of commercial lengths removed by the nominal laying length, or by measuring in place prior to removal, if practicable. However, the overall length shall be no more than indicated unless otherwise agreed to by the Engineer.

- b. Basis of Payment: The acceptable quantities of pipe removal will be paid for at the contract unit price per linear foot (LFT) for pipe of the size specified, successfully cut and capped or removed complete with backfill.
- 8. Item 0008: Pipe, Remove or Abandon, Water Main, Ductile Iron, 8 in.
  - a. Description: Work under this item shall include the removal or abandonment of water main of the size specified measured by the linear foot, computed by multiplying the number of commercial lengths removed by the nominal laying length, or by measuring in place prior to removal, if practicable. However, the overall length shall be no more than indicated unless otherwise agreed to by the Engineer.
  - b. Basis of Payment: The acceptable quantities of pipe removal will be paid for at the contract unit price per linear foot (LFT) for pipe of the size specified, successfully cut and capped or removed complete with backfill.
- 9. Item 0009: Pipe, Remove or Abandon, Water Main, Ductile Iron, 12 in.
  - a. Description: Work under this item shall include the removal or abandonment of water main of the size specified measured by the linear foot, computed by multiplying the number of commercial lengths removed by the nominal laying length, or by measuring in place prior to removal, if practicable. However, the overall length shall be no more than indicated unless otherwise agreed to by the Engineer.
  - b. Basis of Payment: The acceptable quantities of pipe removal will be paid for at the contract unit price per linear foot (LFT) for pipe of the size specified, successfully filled with flowable fill and cut and capped or removed complete with backfill.
- 10. Item 0010: Water Main, PVC C-900 DR 14, 6 in.
  - a. Description: The length of pipe to be measured for payment will be based on the net length of pipe used, which will be obtained by multiplying the nominal length of each pipe section by the number of sections used, for pipe of the type and size specified. If the pipe connects to fittings or valves, the terminal sections will be field measured to the joint of the fitting or valve. Excavation, bedding, backfill, fittings, joint restraint, solid sleeves, connections to existing water main, locator wire, testing, and disinfection of the water main will not be measured and will be included in the cost of the pipe.
  - b. Basis of Payment: The acceptable quantities of pipe will be paid for at the contract unit price per linear foot (LFT) for pipe of the type and size specified, complete in place.
- 11. Item 0011: Water Main, PVC C-900 DR 14, 8 in.
  - a. Description: The length of pipe to be measured for payment will be based on the net length of pipe used, which will be obtained by multiplying the nominal length of each pipe section by the number of sections used, for pipe of the type and size specified. If the pipe connects to fittings or valves, the terminal sections will be field measured to the joint of the fitting or valve. Excavation, bedding, backfill, fittings, joint restraint, solid sleeves, connections to existing water main, locator wire, testing, and disinfection of the water main will not be measured and will be included in the cost of the pipe.
  - b. Basis of Payment: The acceptable quantities of pipe will be paid for at the contract unit price per linear foot (LFT) for pipe of the type and size specified, complete in place.

12. Item 0012: Water Main, PVC C-900 DR 14, 12 in.
  - a. Description: The length of pipe to be measured for payment will be based on the net length of pipe used, which will be obtained by multiplying the nominal length of each pipe section by the number of sections used, for pipe of the type and size specified. If the pipe connects to fittings or valves, the terminal sections will be field measured to the joint of the fitting or valve. Excavation, bedding, backfill, fittings, joint restraint, solid sleeves, connections to existing water main, locator wire, testing, and disinfection of the water main will not be measured and will be included in the cost of the pipe.
  - b. Basis of Payment: The acceptable quantities of pipe will be paid for at the contract unit price per linear foot (LFT) for pipe of the type and size specified, complete in place.
13. Item 0013: Restrain Existing Joint, Water Main, 6 in.
  - a. Description: Work under this section shall include joint restraints on existing water main of the size specified, with an assumed quantity based on 18 lineal foot lengths included in the bid.
  - b. Basis of Payment: Joint restraints on existing water main, of the size specified, shall be paid for at the contract unit price for each (EACH) existing water main joint successfully restrained. All excavation, backfill, and restoration related to joint restraint work is included in the cost of the joint restraint.
14. Item 0014: Restrain Existing Joint, Water Main, 8 in.
  - a. Description: Work under this section shall include joint restraints on existing water main of the size specified, with an assumed quantity based on 18 lineal foot lengths included in the bid.
  - b. Basis of Payment: Joint restraints on existing water main, of the size specified, shall be paid for at the contract unit price for each (EACH) existing water main joint successfully restrained. All excavation, backfill, and restoration related to joint restraint work is included in the cost of the joint restraint.
15. Item 0015: Restrain Existing Joint, Water Main, 12 in.
  - a. Description: Work under this section shall include joint restraints on existing water main of the size specified, with an assumed quantity based on 18 lineal foot lengths included in the bid.
  - b. Basis of Payment: Joint restraints on existing water main, of the size specified, shall be paid for at the contract unit price for each (EACH) existing water main joint successfully restrained. All excavation, backfill, and restoration related to joint restraint work is included in the cost of the joint restraint.
16. Item 0016: Air Release Valve with 4-ft Diameter Manhole
  - a. Description: Work under this section shall include air release valves, measured by the number of units per each successfully installed. Manholes, riser rings, castings, and associated excavation, bedding, backfill, and testing will not be measured for payment and will be included in the cost of the air release valve with manhole.
  - b. Basis of Payment: Air release valve with manholes will be paid for at the contract unit price per each (EACH) complete in place.
17. Item 0017: Valve with Box, Restrained Gate, Ductile Iron, 6 in.

- a. Description: Valves with valve boxes will be measured by the number of units of each size and type installed. Valve boxes, excavation, bedding, and backfill will not be measured for payment and will be included in the cost of the valve.
  - b. Basis of Payment: Valves with valve boxes will be paid for at the contract unit price per each (EACH) for the type and size specified, complete in place.
- 18. Item 0018: Valve with Box, Restrained Gate, Ductile Iron, 8 in.
  - a. Description: Valves with valve boxes will be measured by the number of units of each size and type installed. Valve boxes, excavation, bedding, and backfill will not be measured for payment and will be included in the cost of the valve.
  - b. Basis of Payment: Valves with valve boxes will be paid for at the contract unit price per each (EACH) for the type and size specified, complete in place.
- 19. Item 0019: Valve with Box, Restrained Gate, Ductile Iron, 12 in.
  - a. Description: Valves with valve boxes will be measured by the number of units of each size and type installed. Valve boxes, excavation, bedding, and backfill will not be measured for payment and will be included in the cost of the valve.
  - b. Basis of Payment: Valves with valve boxes will be paid for at the contract unit price per each (EACH) for the type and size specified, complete in place.
- 20. Item 0020: Line Stop, 6 in.
  - a. Description: Line stops will be measured by the number of units of each size indicated in the plans and shall include all material and preparation including excavation, installation of the saddle, concrete thrust restraint, joint restraint, etc. of line-stop valve to provide temporary closure of the existing main. Contractor shall coordinate with the City of Bloomington Utilities for installation and removal of the line stop. Sleeve, necessary fittings, completion plug, temporary joint restraint, necessary excavation, backfill, concrete thrust blocks, and restoration shall be provided by the contractor.
  - b. Basis of Payment: Line stops will be paid for at the contract unit price per each (EACH) for the size specified, complete in place.
- 21. Item 0021: Line Stop, 8 in.
  - a. Description: Line stops will be measured by the number of units of each size indicated in the plans and shall include all material and preparation including excavation, installation of the saddle, concrete thrust restraint, joint restraint, etc. of line-stop valve to provide temporary closure of the existing main. Contractor shall coordinate with the City of Bloomington Utilities for installation and removal of the line stop. Sleeve, necessary fittings, completion plug, temporary joint restraint, necessary excavation, backfill, concrete thrust blocks, and restoration shall be provided by the contractor.
  - b. Basis of Payment: Line stops will be paid for at the contract unit price per each (EACH) for the size specified, complete in place.
- 22. Item 0022: Fire Hydrant Assembly, Remove
  - a. Description: Work under this section shall include the removal of fire hydrant assemblies, measured as each complete assembly that is successfully removed. Removal of associated fittings, pipe, valves, valve boxes, plugging materials, excavation, and backfill shall be included in the cost.

- b. Basis of Payment: The acceptable quantities of fire hydrant assembly removal shall be paid for at the contract unit price per each (EACH) complete assembly successfully removed.
- 23. Item 0023: Fire Hydrant Assembly
  - a. Description: Fire hydrant assemblies will be measured by the number of units installed. Valves, valve boxes, tees, bends, 6-inch piping, excavation, bedding, backfill, and restrained joints associated with the fire hydrant assemblies will not be measured for payment and shall be included in the cost of the fire hydrant assembly.
  - b. Basis of Payment: Fire hydrant assemblies will be paid for at the contract unit price per each (EACH) complete in place.
- 24. Item 0024: Air Release Valve with Manhole, Existing, Remove
  - a. Description: Work under this section shall include the removal of air release valves with manholes, measured as each complete unit successfully removed. Removal of associated fittings, pipe, excavation, and backfill shall be included in the cost. Air release valve to be provided to the Owner.
  - b. Basis of Payment: Removal of air release valves with manholes will be paid for at the contract unit price per each (EACH) complete unit successfully removed.
- 25. Item 0025: Relocate Existing Water Service
  - a. Description: Work under this section shall include the relocation of water service lines, measured per linear foot relocated. Water service line piping, meter pit, curb stop, coupling, associated fittings, excavation, bedding, backfill, testing, removal of the existing water service, and removal of the existing meter pit will not be measured for payment and shall be included in the cost of the water service relocation.
  - b. Basis of Payment: The accepted quantities of water service line to be relocated will be paid for at the contract unit price per linear foot (LFT) relocated complete in place.
- 26. Item 0026: Sidewalk, Concrete, 4 in.
  - a. Description: Work under this section shall consist of all material, labor, and equipment necessary to restore sidewalks to existing condition within the limits of trenching and excavation as shown in the Contract Documents.
  - b. Basis of Payment: The replacement of sidewalk concrete shall be paid for at the contract unit price per square yard (SYS) of sidewalk replaced, complete in place.
- 27. Item 0027: Asphalt Pavement Replacement
  - a. Description: Work under this section shall consist of all material, labor, and equipment necessary to provide asphalt pavement replacement to restore pavement to existing grade within the limits of trenching and excavation as shown in the Contract Documents.
  - b. Basis of Payment: The replacement of asphalt pavement shall be paid for at the contract unit price per square yard (SYS) of pavement patching, complete in place.
- 28. Item 0028: Driveway Repair
  - a. Description: Work under this section shall consist of all material, labor, and equipment necessary to provide driveway repair to restore driveways to existing

grade within the limits of trenching and excavation as shown in the Contract Documents. Contractor to replace in-kind all driveways that are disturbed.

- b. Basis of Payment: Driveways repairs shall be paid for at the contract unit price per square yard (SYS) of sidewalk replaced, complete in place.

#### 1.4 ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement. The Owner-Contractor Agreement may identify certain Alternates to remain an Owner option for a stipulated period of time.
- B. Coordinate related Work and modify surrounding Work. Description for each Alternate is recognized to be abbreviated but requires that each change shall be complete for scope of Work affected.
  - 1. Coordinate related requirements among Specification Sections as required.
  - 2. Include as part of each Alternate: Miscellaneous devices, appurtenances, and similar items incidental to or necessary for complete installation.
  - 3. Coordinate Alternate with adjacent Work and modify or adjust as necessary to ensure integration.
- C. Schedule of Alternates:
  - 1. Alternate No. 1: **Ductile Iron Pipe, 6 in.:**
    - a. Base Bid Item 0010: Water Main, PVC C-900 DR 14, 6 in.
      - 1) Section 4.4.4.1.2. of the City of Bloomington Utilities "Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects".
    - b. Alternate Item A-1: Water Main, Ductile Iron Class 350, 8 in.
      - 1) Section 4.4.4.1.1. of the City of Bloomington Utilities "Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects".
  - 2. Alternate No. 2: **Ductile Iron Pipe, 8 in.:**
    - a. Base Bid Item 0011: Water Main, PVC C-900 DR 14, 8 in.
      - 1) Section 4.4.4.1.2. of the City of Bloomington Utilities "Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects".
    - b. Alternate Item A-2: Water Main, Ductile Iron Class 350, 8 in.
      - 1) Section 4.4.4.1.1. of the City of Bloomington Utilities "Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects".
  - 3. Alternate No. 3: **Ductile Iron Pipe, 12 in.:**
    - a. Base Bid Item 0012: Water Main, PVC C-900 DR 14, 12 in.



- 1) Section 4.4.4.1.2. of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects”.
- b. Alternate Item A-3: Water Main, Ductile Iron Class 350, 12 in.
  - 1) Section 4.4.4.1.1. of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects”.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 012000

## SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Coordination and Project conditions.
- B. Preconstruction meeting.
- C. Site mobilization meeting.
- D. Progress meetings.
- E. Preinstallation meetings.
- F. Closeout meeting.

#### 1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various Sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
  - 1. Coordination Drawings: Prepare as required to coordinate all portions of Work. Show relationship and integration of different construction elements that require coordination during fabrication or installation to fit in space provided or to function as intended. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are important.
- D. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.
- E. In finished areas conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion.

- G. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

### 1.3 PRECONSTRUCTION MEETING

- A. This work shall be in accordance with all applicable sections of the City of Bloomington Utilities "Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects" including, but not limited to, section 4.2.2. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

At the preconstruction meeting Contractor shall provide the proposed construction schedule for review.

### 1.4 SITE MOBILIZATION MEETING

- A. Owner will schedule meeting at Project Site prior to Contractor occupancy. Construction Manager presides over meeting.
- B. Attendance Required: Owner, Contractor, Contractor's superintendent, Construction Manager, major Contractors.
- C. Minimum Agenda:
  - 1. Use of premises by Owner and Contractor.
  - 2. Owner's requirements and occupancy.
  - 3. Construction facilities and controls.
  - 4. Temporary utilities.
  - 5. Security and housekeeping procedures.
  - 6. Schedules.
  - 7. Procedures for testing.
  - 8. Procedures for maintaining record documents.
  - 9. Requirements for startup of equipment.
  - 10. Inspection and acceptance of equipment put into service during construction period.
- D. Construction Manager: Record minutes and distribute to participants within two days after meeting to Engineer, Owner, and those affected by decisions made.

### 1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.
- C. Attendance Required: Job superintendent, major Contractors and suppliers, and Owner as appropriate to agenda topics for each meeting.

D. Minimum Agenda:

1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittal schedule and status of submittals.
6. Review of off-Site fabrication and delivery schedules.
7. Maintenance of Progress Schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on Progress Schedule and coordination.
13. Other business relating to Work.

E. Construction Manager: Record minutes and distribute to participants within **two** days after meeting, with two copies each to Engineer, Owner, and those affected by decisions made.

1.6 PREINSTALLATION MEETINGS

- A. When required in individual Specification Sections, convene preinstallation meetings at Project Site before starting Work of specific Section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific Section.
- C. Notify Engineer four days in advance of meeting date.
- D. Prepare agenda and preside over meeting:
1. Review conditions of installation, preparation, and installation procedures.
  2. Review coordination with related Work.
- E. Record minutes and distribute copies to participants within two days after meeting, with two copies each to Engineer, Owner, and those affected by decisions made.

1.7 CLOSEOUT MEETING

- A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.
- B. Attendance Required: Construction Manager, major Contractors major Subcontractors,, Owner, and others appropriate to agenda.
- C. Notify Engineer four days in advance of meeting date.
- D. Minimum Agenda:
1. Start-up of facilities and systems.
  2. Operations and maintenance manuals.

3. Testing, adjusting, and balancing.
  4. System demonstration and observation.
  5. Operation and maintenance instructions for Owner's personnel.
  6. Contractor's inspection of Work.
  7. Contractor's preparation of an initial "punch list."
  8. Procedure to request Engineer inspection to determine date of Substantial Completion.
  9. Completion time for correcting deficiencies.
  10. Inspections by authorities having jurisdiction.
  11. Certificate of Occupancy and transfer of insurance responsibilities.
  12. Partial release of retainage.
  13. Final cleaning.
  14. Preparation for final inspection.
  15. Closeout Submittals:
    - a. Project record documents.
    - b. Operating and maintenance documents.
    - c. Operating and maintenance materials.
    - d. Affidavits.
  16. Final Application for Payment.
  17. Contractor's demobilization of Site.
  18. Maintenance.
- E. Record minutes and distribute copies to participants within two days after meeting, with two copies each to Engineer, Owner, and those affected by decisions made.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION – Not Used

END OF SECTION

## SECTION 01 32 16 – CONSTRUCTION PROGRESS SCHEDULE

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.2.3. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 01 33 00 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Definitions.
- B. Submittal procedures.
- C. Construction progress schedules.
- D. Proposed product list.
- E. Product data.
- F. Shop Drawings.
- G. Other submittals.
- H. Design data.
- I. Test reports.
- J. Certificates.
- K. Manufacturer's instructions.
- L. Manufacturer's field reports.
- M. Construction photographs.
- N. Contractor review.
- O. Engineer review.

#### 1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's and Construction Manager's responsive action.
- B. Informational Submittals: Written and graphic information and physical Samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

#### 1.3 SUBMITTAL PROCEDURES

- A. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- B. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.
- C. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.
- D. Schedule submittals to expedite Project, and submit electronic submittals via email as PDF electronic files. Coordinate submission of related items.
- E. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

- F. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
- G. Allow space on submittals for Contractor and Engineer review stamps.
- H. When revised for resubmission, identify changes made since previous submission.
- I. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- J. Submittals not requested will not be recognized nor processed.
- K. Incomplete Submittals: Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Engineer.

#### 1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Comply with Section 01 32 16 - Construction Progress Schedule

#### 1.5 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

#### 1.6 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit electronic submittals via email as PDF electronic files.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

#### 1.7 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.



- C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
  - 1. Include signed and sealed calculations to support design.
  - 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
  - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit electronic submittals via email as PDF electronic files.

#### 1.8 OTHER SUBMITTALS

- A. Informational Submittal: Submit data for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

#### 1.9 TEST REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

#### 1.10 CERTIFICATES

- A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Architect/Engineer.

#### 1.11 MANUFACTURER'S INSTRUCTIONS

- A. Informational Submittal: Submit manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to Engineer in quantities specified for Product Data.
- C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

#### 1.12 MANUFACTURER'S FIELD REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit report within 2 days of observation to Engineer for information.
- C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

#### 1.13 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of construction throughout progress of Work produced by an experienced photographer acceptable to Engineer.
- B. Each month submit photographs with Application for Payment.
- C. Photographs: Submit electronic via email.
- D. Digital Images: Deliver complete set of digital image electronic files on CD-ROM to Owner with Project record documents. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as sensor, uncropped.
  - 1. Digital Images: Uncompressed TIFF format, produced by digital camera with minimum sensor size of 4.0 megapixels, and image resolution of not less than 1024 by 768 pixels.
  - 2. Date and Time: Include date and time in filename for each image.

#### 1.14 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer.
- B. Contractor: Responsible for:
  - 1. Determination and verification of materials including manufacturer's catalog numbers.
  - 2. Determination and verification of field measurements and field construction criteria.
  - 3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
  - 4. Determination of accuracy and completeness of dimensions and quantities.
  - 5. Confirmation and coordination of dimensions and field conditions at Site.
  - 6. Construction means, techniques, sequences, and procedures.
  - 7. Safety precautions.
  - 8. Coordination and performance of Work of all trades.
- C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.
- D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Engineer.

#### 1.15 ENGINEER REVIEW

- A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Engineer's review time stated above will be extended as necessary to perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner.
- B. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.
- C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.
- D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order.
- E. Owner may withhold monies due to Contractor to cover additional costs beyond the second submittal review.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

## SECTION 01 40 00 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Quality control.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Testing and inspection services.
- F. Manufacturers' field services.

#### 1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Perform Work using persons qualified to produce required and specified quality.
- D. Products, materials, and equipment may be subject to inspection by Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

#### 1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

#### 1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.
- C. Obtain copies of standards and maintain on Site when required by product Specification Sections.
- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference in reference documents.

#### 1.5 LABELING

- A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
  - 1. Model number.
  - 2. Serial number.
  - 3. Performance characteristics.
- C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

#### 1.6 TESTING AND INSPECTION SERVICES

- A. Utilities inspection shall be in accordance with all applicable sections of the City of Bloomington Utilities "Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects" including, but not limited to, section 4.2.2.1. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)
- B. Employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing.
  - 1. Before starting Work, submit testing laboratory name, address, and telephone number, and names of full-time specialist and responsible officer.
  - 2. Submit copy of report of laboratory facilities' inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.

- C. Independent firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by authorities having jurisdiction.
  - 1. Laboratory: Authorized to operate in State of Indiana.
  - 2. Laboratory Staff: Maintain full-time specialist on staff to review services.
  - 3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- D. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Engineer or Owner.
- E. Reports shall be submitted by independent firm to Engineer, Contractor, and authorities having jurisdiction, indicating observations and results of tests and compliance or noncompliance with Contract Documents.
  - 1. Submit final report indicating correction of Work previously reported as noncompliant.
- F. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
  - 1. Notify Engineer and independent firm 24 hours before expected time for operations requiring services.
  - 2. Make arrangements with independent firm and pay for additional Samples and tests required for Contractor's use.
- G. Employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.
- H. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent firm on instructions from Engineer. Payment for retesting or re-inspection will be charged to Contractor.
- I. Agency Responsibilities:
  - 1. Test Samples of mixes submitted by Contractor.
  - 2. Provide qualified personnel at Site. Cooperate with Architect/Engineer and Contractor in performance of services.
  - 3. Perform indicated sampling and testing of products according to specified standards.
  - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 5. Promptly notify Architect/Engineer and Contractor of observed irregularities or nonconformance of Work or products.
  - 6. Perform additional tests required by Architect/Engineer.
  - 7. Attend preconstruction meetings and progress meetings.
- J. Agency Reports: After each test, promptly submit two copies of report to Engineer, Contractor, and authorities having jurisdiction. When requested by Engineer, provide interpretation of test results. Include the following:
  - 1. Date issued.
  - 2. Project title and number.

3. Name of inspector.
4. Date and time of sampling or inspection.
5. Identification of product and Specification Section.
6. Location in Project.
7. Type of inspection or test.
8. Date of test.
9. Results of tests.
10. Conformance with Contract Documents.

K. Limits on Testing Authority:

1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency or laboratory may not approve or accept any portion of the Work.
3. Agency or laboratory may not assume duties of Contractor.
4. Agency or laboratory has no authority to stop the Work.

1.7 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, testing, adjusting, and balancing of equipment commissioning as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Owner 30 days in advance of required observations. Observer is subject to approval of Owner.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- D. Refer to Section 01 33 00 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION

## SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.3. This includes section 4.3.3 for Maintenance of Traffic. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

Contractor is responsible for staking the water main alignment prior to commencing construction.

END OF SECTION



**DIVISION 02**  
**EXISTING CONDITIONS**

## SECTION 02 00 01 – PROTECTION OF THE SITE

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.1.1. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

**DIVISION 31**  
**EARTHWORK**

## SECTION 31 10 00 - SITE CLEARING

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Removing surface debris.
2. Removing designated paving, curbs, and sidewalk.
3. Removing designated trees, shrubs, and other plant life.
4. Removing abandoned utilities.
5. Excavating topsoil.

B. Related Sections:

1. Section 31 23 18 - Rock Removal.

#### 1.2 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data for herbicide. Indicate compliance with applicable codes for environmental protection.

#### 1.3 QUALITY ASSURANCE

A. Conform to applicable code for environmental requirements, disposal of debris, burning debris on site, and use of herbicides,

B. Perform Work in accordance with local, State, and Federal standards.

C. Maintain one copy of each document on site.

### PART 2 - EXECUTION

#### 2.1 EXAMINATION

A. Prior to starting work, examine and document the existing site conditions.

B. Verify existing plant life designated to remain is tagged or identified.

C. Identify waste area for placing removed materials.

## 2.2 PREPARATION

- A. Call Local Utility Line Information service not less than three working days before performing Work. Request underground utilities to be located and marked within and surrounding construction areas.

## 2.3 PROTECTION

- A. Locate, identify, and protect utilities indicated to remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping.
- C. Protect benchmarks, survey control points, and existing structures from damage or displacement.

## 2.4 CLEARING

- A. Clear areas required for access to site and execution of Work to minimum depth of 12 inches.
- B. Clear undergrowth and deadwood, without disturbing subsoil.

## 2.5 REMOVAL

- A. Remove debris, rock, and extracted plant life from site.
- B. Partially remove paving, curbs, and, sidewalks as required. Neatly saw cut edges at right angle to surface.
- C. Continuously clean-up and remove waste materials from site. Do not allow materials to accumulate on site.
- D. Do not burn or bury materials on site. Leave site in clean condition.

## 2.6 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.
- C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material and cover over with same material, until disposal.
- D. Remove excess topsoil not intended for reuse, from site.

END OF SECTION

## SECTION 31 23 17 – TRENCHING

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, sections 4.5.1.2, 4.5.1.4, and 4.5.1.6. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 31 23 16 – ROCK REMOVAL

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.1.2.1.2. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 31 23 19 - DEWATERING

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.1.2.6. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION



## SECTION 31 23 23 – FILL

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.1.6. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 31 23 23.33 - FLOWABLE FILL

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Flowable fill for:
    - a. Filling abandoned water mains.
- B. Related Requirements:
  - 1. Section 31 23 17 - Trenching: Soil and aggregate backfill for utility trenches.
  - 2. Section 31 23 23 - Fill: Soil and aggregate backfill for structures.

#### 1.2 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, manhole, tank, or cable.
- B. Excavatable Flowable Fill: Lean cement concrete fill used where future excavation may be required, such as fill for utility trenches, bridge abutments, and culverts.
- C. Non-excavatable Flowable Fill: Lean cement concrete fill used where future excavation is not anticipated, such as fill below structure foundations and filling abandoned utilities.

#### 1.3 REFERENCE STANDARDS

- A. ASTM International:
  - 1. ASTM C33 - Standard Specification for Concrete Aggregates.
  - 2. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
  - 3. ASTM C150 - Standard Specification for Portland Cement.
  - 4. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
  - 5. ASTM C403/C403M - Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.
  - 6. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
  - 7. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
  - 8. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
  - 9. ASTM C1040 - Standard Test Methods for Density of Unhardened and Hardened Concrete in Place By Nuclear Methods.
  - 10. ASTM D4832 - Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.

#### 1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Field Quality-Control Submittals:
  - 1. Mix Design:
    - a. Furnish flowable fill mix design for each specified strength.
    - b. Furnish separate mix designs when admixtures are require for the following:
      - 1) Flowable fill Work during hot and cold weather.
      - 2) Air entrained flowable fill Work.
    - c. Identify design mix ingredients, proportions, properties, admixtures, and tests.
  - 2. Furnish test results to certify flowable fill mix design properties meet or exceed specified requirements.
- D. Delivery Tickets: Furnish duplicate delivery tickets indicating actual materials delivered to Project Site.
- E. Qualifications Statements: Submit qualifications for supplier.

#### 1.5 QUALITY ASSURANCE

- A. Perform Work according to local, State, and Federal standards.
- B. Maintain one copy of each standard affecting the Work of this Section on Site.

#### 1.6 QUALIFICATIONS

- A. Supplier:
  - 1. Company specializing in supplying products specified in this Section with minimum three years' documented experience.
  - 2. Product source approved by authority having jurisdiction.

#### 1.7 ENVIRONMENTAL REQUIREMENTS

- A. Minimum Conditions: Do not install flowable fill during inclement weather or when ambient temperature is less than 40 degrees F.

#### 1.8 FIELD MEASUREMENTS

- A. Verify field measurements before installing flowable fill to establish quantities required to complete the Work.

## PART 2 - PRODUCTS

### 2.1 FLOWABLE FILL

- A. Furnish materials according to local, State, and Federal standards.

### 2.2 SOURCE QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.
- B. Test and analyze properties of flowable fill design mix and certify results for the following:
  - 1. Design mix proportions by weight of each material.
  - 2. Aggregate: ASTM C33 for material properties and gradation.
  - 3. Properties of plastic flowable fill design mix including:
    - a. Temperature.
    - b. Slump.
    - c. Air entrainment.
    - d. Wet unit mass.
    - e. Yield.
    - f. Cement factor.
  - 4. Properties of hardened flowable fill design mix including:
    - a. Compressive strength at 1 day, 7 days, and 28 days. Report compressive strength of each specimen and average specimen compressive strength.
    - b. Unit mass for each specimen and average specimen unit mass at time of compressive strength testing.
- C. Prepare delivery tickets containing the following information:
  - 1. Project designation.
  - 2. Date.
  - 3. Time.
  - 4. Class and quantity of flowable fill.
  - 5. Actual batch proportions.
  - 6. Free moisture content of aggregate.
  - 7. Quantity of water withheld.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting Work.

### 3.2 PREPARATION

- A. Support and restrain utilities to prevent movement and flotation during installation of flowable fill.
- B. Protect structures and utilities from damage caused by hydraulic pressure of flowable fill before fill hardens.
- C. Protect utilities and foundation drains to prevent intrusion of flowable fill.

### 3.3 INSTALLATION - FILLING ABANDONED UTILITIES

- A. Only water mains 12-inch and greater require flowable fill be installed prior to abandonment.
- B. Verify pipes and conduits are not clogged and are sufficiently empty to permit gravity installation of flowable fill for entire length indicated to be filled.
- C. Seal lower end of pipes and conduits by method to contain flowable fill and to vent trapped air caused by filling operations.
- D. Place flowable fill using method to ensure there are no voids.
  - 1. Fill pipes and conduits from high end.
  - 2. Fill manholes, tanks, and other structures from grade level access points.
- E. After filling pipes and conduits seal both ends.

### 3.4 FIELD QUALITY CONTROL

- A. Perform inspection and testing according to ASTM C94/C94M.
  - 1. Take samples for tests for every 150 cu yd of flowable fill, or fraction thereof, installed each day.
  - 2. Sample, prepare and test four compressive strength test cylinders according to ASTM D4832. Test one specimen at 3 days, one at 7 days, and two at 28 days.
  - 3. Measure temperature at point of delivery when samples are prepared.
- B. Perform in place penetration (density) tests using hand held penetrometer to measure penetration resistance of hardened flowable fill according to ASTM C403.
  - 1. Perform tests at locations as directed by Owner.
- C. Defective Flowable Fill: Fill failing to meet the following test requirements or fill delivered without the following documentation.
  - 1. Test Requirements:
    - a. Minimum temperature at point of delivery.
    - b. Compressive strength requirements for each type of fill.
  - 2. Documentation: Duplicate delivery tickets.

### 3.5 CLEANING

- A. Remove spilled and excess flowable fill from Project Site.
- B. Restore facilities and Site areas damaged or contaminated by flowable fill installation to existing condition before installation.

END OF SECTION

## SECTION 31 25 00 – EROSION AND SEDIMENTATION CONTROL

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.3.9 and 4.3.10. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

**DIVISION 32**  
**EXTERIOR IMPROVEMENTS**



## SECTION 32 94 00 - RESTORATION

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.6 and 4.5.7. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

**DIVISION 33**

**UTILITIES**

## SECTION 33 01 30.13 –WATER MAIN TESTING

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.8.1.1.3.1 and 4.5.8.2. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 33 11 13 – PUBLIC WATER UTILITY DISTRIBUTION PIPING

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, sections 4.4.4, 4.4.4.1.1.1, 4.4.4.1.1.2, 4.4.4.1.2, 4.4.4.1.2.1, 4.5.1.5, 4.5.3, 4.5.3.2.2, and 4.5.3.4.1.1. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 33 12 13 – WATER SERVICE CONNECTIONS

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, sections 4.4.4.1.4 and 4.5.3.6. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 33 12 19 – WATER UTILITY DISTRIBUTION FIRE HYDRANTS

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, sections 4.4.4.4 and 4.5.3.4.2. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 33 12 33 – WATER UTILITY METERING

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.3.7. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 33 13 00 – DISINFECTION OF WATER UTILITY PIPING SYSTEMS

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, section 4.5.3.5. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION



**DIVISION 40**  
**PROCESS INTEGRATION**

## SECTION 40 05 61 – GATE VALVES

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, sections 4.4.4.2.1, 4.5.3.4.4, and 4.5.3.4.8 This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

## SECTION 40 05 78.11 – AIR RELEASE VALVES

This work shall be in accordance with all applicable sections of the City of Bloomington Utilities “Construction Specifications for City of Bloomington Utilities Wastewater, Water, and Storm Projects” including, but not limited to, sections 4.4.2.2, 4.4.4.2.3 and 4.5.3.4.7. Air release valve shall be Val-Matic, model number 25 or approved equal in accordance with section 4.4.4.2.3. This document is available online at: [2020 CBU Construction Specs\\_FINAL REVISED \(with details\)\\_updated 5-21-20.pdf](#)

END OF SECTION

**APPENDIX A**  
**GEOTECHNICAL REPORT**



## **GEOTECHNICAL ENGINEERING INVESTIGATION**

FULLERTON PIKE EXTENSION – PHASE III  
ROCKPORT ROAD TO ROGERS STREET  
INDOT DES. NOS. 1802977 & 2001721  
BLOOMINGTON, MONROE COUNTY, INDIANA

ATC PROJECT NO. 170GC01077

MARCH 31, 2021

PREPARED FOR:

AMERICAN STRUCTUREPOINT, INC.  
9025 RIVER ROAD, SUITE 200  
INDIANAPOLIS, IN 46240

ATTENTION: MR. PATRICK WOODEN, P.E.

March 31, 2021

Mr. Patrick Wooden, P.E.  
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[www.atcgroupservices.com](http://www.atcgroupservices.com)

Re: **Geotechnical Engineering Investigation**  
Fullerton Pike Extension – Phase III  
Rockport Road to Rogers Street  
INDOT Des. Nos. 1802977 & 2001721  
Bloomington, Monroe County, Indiana  
ATC Project No. 170GC01077

Dear Mr. Wooden:

Submitted herewith is the report of the geotechnical engineering investigation performed by ATC Group Services LLC for the referenced project. This study was authorized in accordance with American Structurepoint, Inc. Subconsultant Agreement for Professional Services dated January 1, 2019, Task Order No. 1 for 2008.00807.0005 dated September 22, 2020 and ATC Proposal No. PE-18-1143 dated July 13, 2018.

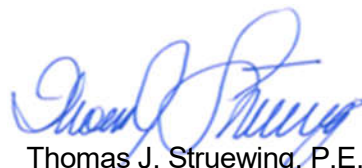
This report contains the results of the field and laboratory testing program, an engineering interpretation of this data with respect to the available project characteristics and recommendations to aid in the design and construction of the earth-related elements of this project.

We appreciate the opportunity to be of service to you on this project. If we can be of any further assistance, or if you have any questions regarding this report, please do not hesitate to contact either of the undersigned.

Sincerely,



Ellen Anne W. Wilkinson, P.E.  
Senior Geotechnical Engineer



Thomas J. Struewing, P.E.  
Principal Engineer

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# 1 INTRODUCTION

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This report presents the results of the geotechnical engineering investigation performed by ATC Group Services LLC (ATC) for the proposed Fullerton Pike Extension – Phase III project from Rockport Road to Rogers Street on the southwest side of Bloomington in Monroe County, Indiana. The general location of the project site is shown on the Project Location Map (Figure 1 in Appendix A) and the Vicinity Map (Figure 2 in Appendix A). The geotechnical evaluations, analyses and design recommendations presented herein are based upon the Stage 2 Plans dated September 11, 2020 provided by American Structurepoint Inc.

The geotechnical engineering investigation was performed to characterize and evaluate the soil, bedrock and ground water conditions beneath the project site and to develop recommendations for use in the design of the bridge foundations, roadway embankments and pavements. The investigation consisted of an exploratory test drilling and sampling program, laboratory testing of soil and bedrock samples obtained from the test borings, engineering analyses and preparation of this report.

# 2 PROJECT DESCRIPTION

---

American Structurepoint Inc. is developing plans for the construction of a new section of Fullerton Pike (Phase III) from Rockport Road to Rogers Street on the southwest side of Bloomington in Monroe County, Indiana. The project will begin at approximately Station 250+90, Line “PR-A”, which is about 400 ft west of Rockport Road and will end at approximately Station 315+90, Line “PR-A”, which is about 500 ft west of Rogers Street.

In addition to the Fullerton Pike portion of the project, the project will include improvements to approximately 600 ft of Rockport Road (Line “PR-S-2”) on the north and south sides of Fullerton Pike and also the realignment of the Batchelor Middle School entrance drive. The alignment of the school entrance drive (Line “PR-S-1”) will be shifted to the east to intersect Fullerton Pike at Clear View Drive. The new portion of the school entrance drive will be approximately 400 ft long. The intersection of the school entrance drive, Clear View Drive and Fullerton Pike will be a roundabout. The project will include curbs, gutters and storm sewers throughout the entire project for all of the new and reconstructed roadway areas.

The existing terrain within the project limits is characterized as gently rolling and the roadway profile grade will generally follow the existing terrain with generally modest cut and fill depths. The areas surrounding the eastern portion of the project area are generally developed as residential. The middle portion of the project area is generally through the West Fork Clear Creek valley and is mostly agricultural and undeveloped fields. In the western portion of the project area, the south side of the roadway alignment is developed as residential and the north side appears to be part of a former limestone quarry and stone processing facility. It appears that fill materials have been placed on the north side of the roadway alignment at the west end that likely includes remnants from the former limestone operations.



Based upon the USGS Quad Map, it appears that two railroads formerly crossed the alignment near the west edge of the Clear Creek valley.

Based upon the current plans (Stage 2 plans dated September 11, 2020) it is estimated that the project will generally require only modest cut and fill depths, generally less than about 10 ft at most locations along the alignment. Cut depths will generally be less than about 6 ft in most areas although deeper cuts of as much as about 12 ft will be required for the side ditch on the left (north) side of the road from about Station 270+00 to Station 274+00, Line "PR-A". In some locations deeper excavations will be required in order to install the storm drainage structures that will extend significantly deeper than the final grade. Embankment fill heights of as much as about 14 ft will be required at the east end of the West Fork of Clear Creek bridge. At the west end of the project (in the vicinity of approximately Station 256+00) there are some deeper cuts on the south side of Fullerton Pike and deeper fills on the north side of Fullerton Pike from approximately Station 257+00 to 261+00.

A new four-span bridge will be constructed over the West Fork of Clear Creek and the Clear Creek Trail. The locations of the substructure units for the proposed bridge are summarized in the following table.

**Table 1 – Summary of Proposed Bridge Substructure Units**  
**Fullerton Pike Phase III over West Fork Clear Creek and Clear Creek Trail**  
**Monroe County Bridge No. 315**  
**INDOT Des. No. 2001721**  
**Bloomington, Monroe County, Indiana**

<b>Bent/Pier No.</b>	<b>Center of Substructure Unit, Station</b>	<b>Line</b>
Bent No. 1	276+67	"PR-A"
Pier No. 2	277+79	"PR-A"
Pier No. 3	279+23	"PR-A"
Pier No. 4	280+67	"PR-A"
Bent No. 5	281+91	"PR-A"

In addition to the new roadways and the new bridge, the project will also include new bike trails. The bike trails will be located on the east side of the Clear Creek Trail and will connect the existing Clear Creek Trail to the multi-use path and sidewalk along Fullerton Pike.

## 3 PURPOSE AND SCOPE OF WORK

---

### 3.1 Field Investigation

The subsurface conditions for the proposed project were investigated by ATC and drilling was performed with both truck-mounted and all-terrain-vehicle-mounted drilling equipment using hollow-stem-auger methods to advance the boreholes through the overburden soils. Split-barrel samples were obtained within the overburden soils using the standard penetration test (SPT) procedures (American Association of State Highway and Transportation Officials-AASHTO-Method T206) at 2.5 ft to 5.0 ft intervals. The test borings were extended below the auger refusal depths at selected locations and samples of the bedrock materials were obtained using rock coring procedures in general accordance with AASHTO T255. The equipment used to obtain the rock cores included a conventional NQ double-tube core barrel system with diamond cutting bit. Rock cores were typically completed in 5 ft long, or less, rock core runs. Recovered rock cores were measured in the field to determine core recovery and rock quality designation (RQD) in accordance with ASTM D6032 and the Indiana Geotechnical Manual Section 4.2.2.2.3. The rock cores were placed in rock core boxes for transport to the geotechnical laboratory for further examination, analyses and testing.

The test boring locations were staked or marked in the field by ATC representatives, with approximate test boring ground surface elevations, stations and offsets estimated from the Stage 2 plans provided by American Structurepoint Inc. The test borings were drilled at the approximate locations noted on the Test Boring Logs in Appendix B and as depicted on the Boring Plans (Figures 3 through 8 in Appendix A).

Logs of all test borings, which show visual descriptions of all soil strata encountered using the AASHTO soil classification system (AASHTO M145) and the INDOT Standard Specifications Section 903, as well as visual descriptions of the bedrock, are included in Appendix B. Sampling information and other pertinent field data and observations are also included on the Test Boring Logs. In addition, a sheet defining the terms and symbols used on the test boring logs and explaining the SPT procedure is provided immediately preceding the Test Boring Logs in Appendix B.

### 3.2 Laboratory Investigation

The soil samples were visually classified by a geotechnical engineer in accordance with the AASHTO Soil Classification System (AASHTO M145) and the INDOT Standard Specifications Section 903, and the visual classifications were verified or modified based upon the results of laboratory tests. Final test boring logs were subsequently prepared and are included in Appendix B.

Soil index property tests including natural moisture content tests (AASHTO T265), grain size analyses (AASHTO T88), Atterberg limits tests (AASHTO T89 and T90), soil pH tests (AASHTO T 200) and water-soluble sulfate content tests on soil (Indiana Test Method 510-13T) were performed on representative soil samples. In addition to the soil index property tests, calibrated hand penetrometer tests ("pocket penetrometer" tests) were performed on selected soil samples. Unconfined compressive strength tests (ASTM D2938) were performed on selected rock core samples.

In addition to the soil index property tests, two standard Proctor moisture-density relationship tests (AASHTO T99) were performed on bulk samples of potential pavement subgrade soils. Resilient modulus tests were performed on the bulk soil sample obtained from Boring RB-05. The results of laboratory tests are included on the Test Boring Logs in Appendix B and/or on the test report sheets in Appendix C.

Testing of INDOT required topsoil parameters included gradation, organic content (loss-on-ignition) and pH along with phosphorus content and potassium content according to North Central Regional Research Publication 221, Chapter 6 and potassium content according to North Central Regional Research Publication 221, Chapter 7. The results of the topsoil laboratory tests performed for this project are included on the test results summary sheet in Appendix C.

## 4 GENERAL SITE CONDITIONS

---

### 4.1 Regional and Site Geology

The project site is located within the Mitchell Plain Physiographic Unit, which is part of the Southern Hills and Lowlands Region of the State of Indiana. The Mitchell Plain is characterized by broad areas of rolling hills. The overburden soils consist mainly of a relatively thin surficial layer of eolian (windblown) cohesive soils such as silt, silty loam and silty clay loam (A-6) that overlies high plasticity residual soils (“Terra Rosa”) consisting primarily of clay (A-7-6) that is the result of weathering of the limestone bedrock. The bedrock in this area consists of Mississippian Age limestone of the Sanders Group and the depth to bedrock is generally relatively shallow and varies from outcrops at the ground surface to about 30 ft below the ground surface, although bedrock is sometimes deeper in major stream valleys. Although not as prevalent as locations west and south of the Bloomington, karst features are known to exist within the Mitchell Plain in Monroe County and karst features have been identified at and near the project area during the karst study for this project.

### 4.2 Karst Features

The bedrock formation underlying the project area includes layers of limestone that are susceptible to solutioning of the calcium carbonate bedrock, which results in the development of karst features such as caves, sinkholes, springs, sinking streams, etc. A karst study for the project area was performed by American Structurepoint, Inc. (refer to American Structurepoint, Inc. Memorandum for Karst Features Re-Evaluation dated December 21, 2020 in Appendix F). The karst study provides further details regarding the geologic setting of the project area, a compilation of previously generated karst related data and provides a discussion of identified karst features within the proposed roadway right-of-way and near the proposed right-of-way.

The karst feature reevaluation identified four existing sinkholes within the project right-of-way, with one such sinkhole located near the intersection of Fullerton Pike and Rockport Road and three sinkhole features that are located near the exiting pedestrian trail on the north side of the proposed roadway. Another significant sinkhole was observed in the field south of the roadway right-of-way west of Clear Creek (south of approximately Station 267+00). It was determined that none of the currently identified karst features would be impacted by the new construction.

It is important to note that the coring water used for coring the bedrock was lost in several of the test borings indicating the potential for solution features or widened joints within the limestone bedrock formation at those locations. The occurrence of several karst features in the vicinity of the proposed roadway along with apparent solutioning or open joints in the limestone bedrock suggest that karst features could be possible at various elevations within the limestone bedrock. Thus, it should be anticipated that some undocumented karst features could be encountered or identified during construction of the new roadway that will require treatment or remediation to prevent future subsidence and/or damage to the embankments and roadway.

### 4.3 Existing Subsurface Conditions

The general subsurface conditions were investigated by drilling 37 roadway test borings (designated with “RB”), and eleven bridge test borings (designated with “TB” and “S”) to depths ranging from 2.0 ft to 31.7 ft below the existing ground surface. The subsurface conditions disclosed by the field investigation are summarized in the following paragraphs. Detailed descriptions of the subsurface conditions encountered in each test boring are presented on the test boring logs in Appendix B. It should be noted that the stratification lines shown on the test boring logs represent approximate transitions between material types. In-situ stratum changes could occur gradually or at slightly different depths.

Below either a topsoil layer or pavement, depending upon where the boring was drilled, the test borings typically encountered an upper stratum of silt (A-6), silty loam (A-6) and/or silty clay loam (A-6) to depths typically varying from about 2 ft to 12 ft below the existing ground surface. This upper stratum of silty loam, silt and silty clay loam (A-6) soil is typically underlain by high plasticity residual red clay (A-7-6) to either the boring termination depths, if the boring was terminated above the bedrock, or to the top of bedrock. Borings RB-06 and RB-06-A encountered old, apparently uncontrolled fill soils presumably associated with either the former railroads or the former limestone quarry operation that existed on the north side of Fullerton Pike between the Clear Creek valley and Rockport Road.

Auger refusal was encountered in every test boring except for Boring Nos. RB-03, RB-04, RB-05, RB-23, RB-26, RB-27 and RB-31, which were terminated at planned depths above the bedrock. Auger refusal is defined herein as the depth at which a conventional test drill rig cannot advance the hollow-stem-augers. It is important to understand that auger refusal is not necessarily coincident with the bedrock surface since the augers can penetrate the upper weathered or fractured bedrock in some cases, or can encounter refusal on objects above the bedrock surface such as “floaters” or slabs of unweathered bedrock suspended in the residual soils above the bedrock surface, on obstructions in fill materials above the bedrock, etc. The depths and elevations at which auger refusal was encountered in the test borings drilled for this investigation are indicated on the Test Boring Logs in Appendix B. Test borings were extended into the bedrock at selected locations by rock coring methods. The bedrock encountered in the rock cores was typically variably weathered limestone with occasional thin joints, voids or clay seams within the limestone bedrock. In the general, the upper portion of the bedrock was found to be more fractured with somewhat more frequent clay seams. The following table summarizes the auger refusal depths and the rock quality designation values (RQD's) for the test borings drilled for the bridge over West Fork of Clear Creek.

**Table 2 – Summary of Auger Refusal Depths and Rock Quality Designation Values (RQD's)  
Fullerton Pike Bridge over West Fork of Clear Creek and Clear Creek Trail  
Monroe County Bridge No. 315  
INDOT Des. No. 2001721  
Bloomington, Monroe County, Indiana**

Boring ID	Auger Refusal Depth (ft.)	Estimated Auger Refusal Elevation (ft.) <sup>(1)</sup>	Rock Core Depth (ft.)	Rock Core Recovery (%)	Rock Quality Designation RQD (%) <sup>(2)</sup>	Description of Rock Quality <sup>(2)</sup>
TB-1	6.7	669.8	6.7 to 10.2 10.2 to 15.2 15.2 to 16.7	94 100 93	49 100 93	Poor Excellent Excellent
TB-2	5.5	670.5	5.5 to 10.1 10.1 to 15.1 15.1 to 20.1 20.1 to 25.1 25.1 to 30.1 30.1 to 31.7	74 100 100 68 100 100	28 66 96 46 100 100	Poor Fair Excellent Poor Excellent Excellent
TB-3	4.0	670.0	4.0 to 5.0 5.0 to 10.0 10.0 to 15.0 15.0 to 20.0 20.0 to 25.0 25.0 to 30.0	100 100 100 100 100 86	0 0 62 82 96 80	Very Poor Very Poor Fair Good Excellent Good
TB-4	4.2	673.3	4.2 to 5.7 5.7 to 10.7 10.7 to 15.7 15.7 to 20.7 20.7 to 25.7 25.7 to 30.7	40 96 98 100 98 86	0 60 98 84 98 70	Very Poor Fair Excellent Good Excellent Fair
TB-5	2.3	684.7	2.3 to 4.6 4.6 to 9.6 9.6 to 12.3	57 100 100	0 60 100	Very Poor Fair Excellent

(1) Based upon ground surface elevations estimated from Stage 2 Plans provided by American Structurepoint.

(2) Based upon the Indiana Geotechnical Manual criteria for Rock Quality (IGM Section 4.2.2.2.3).

The Mississippian Age limestone bedrock of the Sanders Group underlies the project area. This formation includes limestone that is known to be susceptible to solutioning of the calcium carbonate bedrock. The solutioning of the calcium carbonate bedrock can result in the development of karst features such as caves, springs, sinkholes, sinking streams, etc. However, unlike the middle Mississippian Age limestone of the Blue River Group, which includes the St. Genevieve and St. Louis limestone formations that are associated with the classic surface karst features; significant

development of karst features in this geologic setting are less common. However, it must be recognized that it is possible that karstic features could exist beneath at the project site.

#### **4.4 Ground Water Conditions**

Ground water level observations were made during drilling operations by noting the depth of water on the drilling tools (if any) and in the open boreholes following withdrawal of the drilling augers and after approximately 24 hours after withdrawal of the drilling tools (if any). Ground water information is presented on the test borings logs in Appendix B. It should be noted that the ground water levels noted on the test boring logs for test borings that included rock coring are affected by the introduction of coring water into the boreholes to facilitate rock coring and may not be representative of the actual free ground water level. It must also be noted that short term ground water level observations made in cohesive soils are not necessarily a reliable indication of the ground water level and fluctuations in the level of the ground water should be expected due to variations in rainfall and other factors not evident at the time of the field investigation. Higher ground water levels will likely be encountered at other times in the future.

## **5 DESIGN RECOMMENDATIONS**

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The following design recommendations have been developed on the basis of the previously described project characteristics (Section 2) and the subsurface conditions (Section 4 and Appendix B). If there are any changes in the project criteria; including the planned profile grades, cross-sections, structure type, structure spans and total length, bent and pier locations, loading conditions, etc., a review should be made by this office.

The design recommendations presented herein are based on the assumption that all earth related elements of the project will be carefully and continuously observed, tested and evaluated by a geotechnical engineer or qualified geotechnical technician working under the direction of a geotechnical engineer to confirm that the earth related elements of the project are compatible and consistent with the conditions upon which the design recommendations are based. The careful and thorough field testing and observations of the soil related aspects of the project are a critical and essential component of the design recommendations.

#### **5.1 Seismic Considerations**

Based on geologic mapping and the results of the test borings, it is our opinion that the subsurface conditions at the Fullerton Pike bridge over the West Fork of Clear Creek and the Clear Creek Trail (Monroe County Bridge No. 315, INDOT Des. No. 2001721) meet the criteria for Site Class C based on Table 3.10.3.1-1 ("Site Class Definitions") in the 2020 AASHTO LRFD Bridge Design Specifications, 9<sup>th</sup> Edition. A Design Spectral Response Acceleration Coefficient at 1-second period ( $S_{D1}$ ) of 0.11g has been estimated based on Sections 3.10.3 and 3.10.4 of the 2020 AASHTO LRFD Bridge Design Specifications. Based upon  $S_{D1} = 0.11g$ , the bridge should be assigned to Seismic Zone 1 according to Table 3.10.6-1 ("Seismic Zones") in the 2020 AASHTO LRFD Bridge Design Specifications. The Site Modified Maximum Peak Ground Acceleration at the Ground Surface ( $PGA_M$  or  $A_s$ ) has been estimated to be 0.09g.

## **5.2 Bridge Foundations – Fullerton Pike over West Fork of Clear Creek and Clear Creek Trail, Monroe County Bridge No. 315, INDOT Des. No. 2001721**

Based upon the project characteristics and the subsurface conditions encountered in the test borings drilled at the proposed bridge substructure locations, it appears that the end bents and the interior pier for the new four-span bridge can be supported on pile foundations. It is also possible to support the interior bridge piers on either spread footings bearing in competent limestone bedrock, or on drilled shafts socketed into competent limestone bedrock. Design recommendations for steel H-piles for the end bents and the interior piers are provided in Section 5.2.1, design recommendations for spread footings for the interior piers are presented in Section 5.2.2 and design recommendations for drilled shafts for the interior piers are presented in Section 5.2.3.

### **5.2.1 Steel H-Pile Foundations**

The bridge end bents and the interior piers can be supported on steel H-piles (INDOT Standard Specifications Section 915.02). The steel H-pile foundation recommendations are based on the 2020 AASHTO LRFD Bridge Design Specifications, 9<sup>th</sup> Edition, the INDOT Geotechnical Services Division Load and Resistance Factor Design Policy for Foundations, the Indiana Design Manual Chapter 408 and the 2020 INDOT Standard Specifications (ISS). The pile section selected should be evaluated by the structural engineer relative to the required performance of the piles as part of an integral end bent, if the end bents are to be designed as integral end bents. This is important for this project since the piles will not achieve the minimum pile length required for integral end bents as prescribed in the Indiana Design Manual Chapter 408.

The H-piles shall be spaced at least 3 pile widths apart, center-to-center. The piles shall be installed and monitored in accordance with 2020 ISS Section 701.

Based upon currently available bridge and roadway plans, it is estimated that the final roadway grade at the bridge abutments will be raised approximately 12 ft above the current ground surface at the west end of the bridge and approximately 15 ft above the current ground surface at the east of the bridge. Based upon the soil conditions encountered at the bridge end bents, which includes only about 6 to 8 ft of stiff soil above the bedrock, it is our opinion that the post-construction embankment settlement at the bridge abutments will be minimal and downdrag loads have not been included for the piles at the bridge end bents.

Due to the shallow bedrock at the bridge location, all of the piles shall be installed in holes cored in rock according to ISS 701.09(a)3. According to ISS 701.09(a)3, the piles shall be set in the cored holes in rock and driven to practical refusal (as defined in ISS Section 701.08) prior to filling the cored holes with concrete. Due to expected bedrock surface elevations relative to the bottom of the bridge end bent elevations and bottoms of footing and/or mudsill elevations, and due to the variability of the bedrock surface; the piles shall be a minimum length of 10 ft below to the bottom of the end bent elevations and bottoms of footing and/or mudsill elevations and must also extend a minimum of at least 5 ft into the limestone bedrock in cored holes in rock (ISS 701.09(a)3), regardless of the bedrock surface elevation at any specific pile location. It is expected that the pile lengths will not meet the minimum length criteria for integral end bents according to the IDM. The IDM requires that the designer shall provide calculations to support the use of the shorter piles for an integral end bent. Other end bent options may also be considered due to the short pile lengths.

**Table 3 - Summary of H-Pile Resistances**  
**Fullerton Pike Bridge over West Fork of Clear Creek and Clear Creek Trail**  
**Monroe County Bridge No. 315**  
**INDOT Des. No. 2001721**  
**Bloomington, Monroe County, Indiana**

Bent / Pier No.	Bent Nos. 1 and 5	Piers Nos. 2, 3 and 4
Pile Type	Steel H-Pile	Steel H-Pile
Pile Section	HP 14x89	HP 14x89
Pile End Treatment	Pile Shoes (ISS 915.03)	Pile Shoes (ISS 915.03)
Pile Steel Grade	50 ksi	50 ksi
Maximum Factored Design Soil Resistance, $R_{R\ max}$ (kips)	395	395
Downdrag Load, DD, (kips)	0	0
Resistance Factor, $\phi_{dyn}$	0.55	0.55
Maximum Nominal Pile Resistance, $R_{n\ max}$ (kips)	718	718
Relaxation of Pile Tip in Shale, (kips)	0	0
Downdrag Friction, $R_{sdd}$ (kips)	0	0
Scour Zone Friction, $R_{s\ scour}$ (kips)	0	0
Maximum Nominal Driving Resistance, $R_{ndr}$ (kips)	718	718
Minimum Pile Length	10 ft minimum pile length and 5 ft minimum cored hole in rock <sup>(1)</sup>	10 ft minimum pile length and 5 ft minimum cored hole in rock <sup>(1)</sup>

<sup>(1)</sup>Cored Hole in Rock shall be required according INDOT Standard Specifications Section 701.09(a)3. The cored hole in rock at each pile location shall extend at least 5 ft into the limestone bedrock. According to ISS 701.09(a)3, the piles shall be set in the cored holes in rock and driven to practical refusal (as defined in ISS Section 701.08) prior to filling cored holes with concrete.

The estimated approximate top of limestone bedrock is El 668 to El 671 at Bent No. 1 and El 680 to El 685 at Bent No. 5.

In order to confirm that the bridge piles are properly installed, it is recommended that a representative of the geotechnical engineer who is independent of the contractor perform continuous inspection during pile installation. An accurate record shall be kept of the date, time, depth of penetration, driving resistance and other pertinent data for each pile as well as the characteristics of the pile driver



that is used. The pile driver shall have sufficient energy to drive the piles to bearing as prescribed in the 2020 ISS and all pile driving should be done in accordance with ISS Section 701.

### 5.2.2 Spread Footings

The interior piers for the Monroe County Bridge No. 315 can be supported on spread footings bearing in competent limestone bedrock. The recommended spread footing design parameters presented in Table 4 below have been developed based upon the results of the test borings, the rock cores retrieved from the test borings and the Indiana Design Manual Chapter 408. The design parameters recommended in Table 4 are also based upon the assumption that the spread footings for the new bridge will bear on competent limestone bedrock that is free of any voids, clay seams or loose rock and that any such unsuitable materials will be completely removed to expose competent limestone bedrock. All of the spread footings shall bear at least 2 ft into competent limestone bedrock.

**Table 4 - Summary of Recommended Spread Footing Bearing Elevations and Factored Bearing Resistances**  
**Fullerton Pike Bridge over West Fork of Clear Creek and Clear Creek Trail**  
**Monroe County Bridge No. 315**  
**INDOT Des. No. 2001721**  
**Bloomington, Monroe County, Indiana**

Substructure Unit Designation	Minimum (Highest) Recommended Spread Footing Bearing Elevation <sup>(1)</sup>	Minimum Spread Footing Width, ft	Factored Bearing Resistance ( $q_R$ ), kips/sq.ft	Nominal Coefficient of Friction, $\tan \delta$ , (dimensionless) Between Poured Concrete Footing and Bedrock Foundation Material
Pier No. 2	665.0	5	22	0.6
Pier No. 3	664.0	5	22	0.6
Pier No. 4	669.0	5	22	0.6

<sup>(1)</sup> All of the spread footings shall bear at least 2 ft into competent limestone bedrock.

The spread footings will bear below the ground water level and the creek level. Therefore, it is important that temporary dewatering measures be implemented in advance of excavating. Excavation for the foundations should not begin until an acceptable dewatering system is in place and the footings can be constructed in dry conditions. It should be noted that the upper part of the bedrock appears to be highly fractured and therefore seepage of water will likely occur through joints and fractures in the upper bedrock.

The limestone bedrock exposed at the bases of the new spread footing excavations shall be carefully observed and evaluated by a geotechnical engineer, or a qualified geotechnical technician working under the direction of the geotechnical engineer to determine whether the actual bearing materials at the spread footing locations and design bearing elevations are consistent and compatible with those upon which the design recommendations are based (as described above). The bedrock at the bottom

of the spread footings shall be proof-tested as described in ISS Section 206.08. All loose or otherwise undesirable bedrock material encountered below the spread footing design bearing elevations as identified by inspections, observations and proof-testing shall be removed at the spread footing locations so that the spread footings will bear on the competent limestone bedrock that was assumed in the design recommendations as described above. Where it is determined that unsuitable materials must be removed from beneath a spread footing, the proposed spread footing bearing elevation may be re-established by backfilling after all undesirable materials have been removed. The undercut excavation beneath each spread footing shall extend to suitable limestone bedrock and any cavities that are created beneath the spread footings to remove unsuitable bearing materials (e.g., clay seams, loose or incompetent bedrock, voids, etc.) below the nominal or planned spread footing bearing elevations can be re-established by filling the cavities beneath the spread footings with Class B concrete.

### **5.2.3 Drilled Shaft Foundations**

Drilled shaft foundations can be used for support of the interior piers (Pier Nos. 2, 3 and 4) for the proposed Monroe County Bridge No. 315. The design and construction of all drilled shaft foundations shall follow procedures outlined in the 2020 AASHTO LRFD Bridge Design Specifications, 9<sup>th</sup> Edition, and the FHWA GEC 10 “Drilled Shafts: Construction Procedures and LRFD Design Methods”, Publication: FHWA-NHI-10-016, dated May 2010.

The axial resistance for the drilled shafts shall be generated entirely in side friction along the length of the drilled shaft foundation that is socketed into competent limestone bedrock (i.e., rock socket friction resistance). A Factored Unit Side Resistance of 18 kips/sq.ft can be used in analyzing the axial downward compression capacity of the rock sockets based upon the criteria defined in Table 5 below. Additional recommendations can be provided if uplift resistance of the drilled shafts is required. No side friction resistance above the top of the competent rock elevations as prescribed in Table 5 below shall be included in the analyses. The variably weathered bedrock is indicated by several factors including low RQD values in the upper part of the bedrock in some of the borings. In order to account for this inconsistency in the condition, characteristics and strength of the bedrock, and to provide greater reliability for resistance, it is recommended that resistance be neglected in the zone above the Minimum (Highest) Top of Competent Bedrock Elevations summarized in Table 5.

The analyses for factored axial side resistance of the drilled shaft foundations are based on a resistance factor ( $\phi_{qs}$ ) of 0.55 for side friction resistance in competent limestone bedrock. Only straight shafts shall be used and belling (or underreaming) of the shafts shall not be attempted.

Table No. 5 below summarizes recommendations for axial resistance parameters for use in designing drilled shaft foundations for Pier Nos. 2, 3 and 4 for Monroe County Bridge No. 315.

**Table 5 - Summary of Drilled Shaft Foundation Axial Resistance Recommendations**  
**Fullerton Pike Bridge over West Fork of Clear Creek and Clear Creek Trail**  
**Monroe County Bridge No. 315**  
**INDOT Des. No. 2001721**  
**Bloomington, Monroe County, Indiana**

Bridge Pier No.	Factored Unit Side Resistance (Axial Compression) in Competent Bedrock, kips/sq.ft.	Minimum (Highest) Top of Competent Bedrock Elevation <sup>(1)</sup>	Minimum (Highest) Rock Socket Tip Elevation
2	18	665	659
3	18	664	658
4	18	670	664

<sup>(1)</sup> The “Minimum (Highest) Top of Competent Bedrock Elevation” is not coincident with the top of bedrock and is deeper than the top of bedrock encountered in the test borings due to the variability in the depth to the bedrock surface, the condition of the bedrock, voids encountered, etc. No shaft resistance should be included above these elevations.

The drilled shafts shall extend to the minimum drilled shaft rock socket tip elevations recommended in Table 5 above, and at least 2 rock socket diameters below the top of the competent bedrock elevations, whichever results in the deepest, or lowest, drilled shaft tip elevation. Due to variations in the bedrock surface, the actual depths to competent bedrock should be expected to vary at each pier location and at each shaft location, and both criteria described above must be met for all drilled shafts. Exploratory cores as defined in the INDOT Recurring Special Provisions for Drilled Shafts (RSP 728-B-203) shall be performed prior to starting construction of the drilled shafts and the final top of competent bedrock elevations and drilled shaft rock socket tip elevations will be based upon the results of the exploratory core at each drilled shaft location. It is also recommended that the maximum drilled shaft diameter should not exceed 5.0 ft to avoid mass concrete requirements.

The Minimum Top of Competent Bedrock Elevations presented in Table 5 above do not define the top of bedrock surface since there is typically decomposed bedrock, weathered bedrock, severely fractured bedrock, voids, etc. above these elevations that is not appropriate for reliable drilled shaft axial capacity and therefore the top of competent bedrock elevations are typically below the anticipated top of bedrock surface. The top of competent bedrock elevations are estimated based upon test borings near or in the vicinity of the locations summarized in the table and are not represented to be exact at any specific location. The actual top of competent bedrock will be determined with exploratory cores that will be performed at each individual drilled shaft location in accordance with the INDOT Recurring Special Provisions 728-B-203 at the time of construction. The exploratory cores shall be submitted to the Engineer for evaluation to determine/confirm depth to bedrock, depth to competent bedrock and final drilled shaft tip elevation. The contract should allow for extending drill shaft rock socket tips deeper based upon the results of the exploratory cores that will be taken at each drilled shaft location.

No axial resistance should be considered for the portions of the drilled shafts above the top of competent bedrock elevations. The rock socket lengths should be designed to extend to the minimum drilled shaft tip elevations in Table 5 above and the rock socket lengths should be a minimum of at least 2 times the rock socket diameter below the top of the competent bedrock. The rock socket diameter should be 6 in. less than the main shaft diameter. It is recommended that the minimum drilled shaft diameter be at least 3.5 ft and the minimum rock socket diameter should be at least 3.0 ft. For simplification of construction, consideration should be given to using a single reinforcing steel cage diameter throughout the entire length of the drilled shaft from the top of shaft to the tip of the rock socket that is based upon the rock socket diameter, which would result in at least 3 in. additional concrete cover for the portion of the shaft above the rock socket. Due to the variability of the bedrock surface and depth to competent bedrock, the top of rock socket elevation will vary for each drilled shaft and the structural evaluations should be based upon consideration of such variability. It is recommended that a minimum of two drilled shafts be used to support individual piers and the drilled shafts should be spaced at least 4 shaft diameters apart (center-to-center).

The INDOT Recurring Special Provisions for Drilled Shaft Foundations (728-B-203) shall be used for the construction, inspection and testing of the drilled shaft foundations, including CSL testing. The temporary casing method may be used for the drilled shafts for this project since the interior piers are outside the normal creek channel.

Depending upon the quality of the seal between the temporary casing and the bedrock surface, as well as ground water flow conditions within the bedrock, it may be necessary to use drilling fluids and the wet method for constructing the drilled shafts. The drilled shaft contractor must be prepared to install the drilled shafts through saturated soils and fractured bedrock that bears water. This is important to note so that measures can be taken to prevent caving of the sides during excavation and also so that sufficient concrete head is maintained during concrete placement. The shafts will likely require temporary steel casing to prevent sidewall caving and drilling fluids may be required. In addition to the use of drilling augers and rock core barrels, clean-out buckets and air-lifting shall be used to remove all loose material from the rock sockets.

It is important to retain an experienced, competent drilled shaft contractor, who shall be responsible for properly installing the shafts in accordance with current industry standards and generally accepted methods without causing deterioration of the soils and bedrock around the shafts. The drilled shafts must be installed and the temporary casing removed in a manner that prevents defects in the shafts or other adverse conditions that could negatively impact the integrity of the shafts. It is important that the excavation remain stable while maintaining the proper geometry with accurate placement of the reinforcing steel during concreting and removal of the temporary casing.

The bedrock within the rock socket depth of the drilled shaft foundation excavations shall be observed by the Engineer to verify that the shaft extends to the proper embedment depth and that the rock encountered within the socket depth is compatible with the drilled shaft design. Unsuitable material shall be removed from the rock socket prior to the placement of reinforcing steel and concrete. The drilled shaft quality assurance can be performed without entering the shaft excavation by observing the drilling operations and auger cuttings throughout the entire length of the shaft excavation to verify

that the material at the bearing elevation is suitable limestone bedrock. If unsuitable conditions are encountered along the rock socket length or at the design bearing elevation, the shaft excavation shall be extended until suitable bedrock conditions are encountered.

If the shaft excavation is to be entered (which is not recommended), all local, state and federal safety regulations regarding confined space entry shall be followed. No open flame shall be permitted on the site near the drilled shaft excavation and no personnel shall be allowed to enter the excavation until proper safety precautions for confined space entry have been taken. Such precautions shall include proper personal protective equipment and monitoring of the excavations for explosive vapors and oxygen deficiency. Additional safety measures may be needed depending upon the specific conditions at the foundation location, the construction procedures employed and the applicable local, state and federal Occupational Safety and Health Regulations.

### 5.3 Pavement Design Considerations

The 2043 AADT for the Fullerton Pike extension is anticipated to be significantly greater than 1,000 VPD. The pavement subgrade treatment should be in accordance with INDOT Standard Specifications (ISS) Section 207.04. A resilient modulus value of 6,000 lbs/sq.in. is recommended for use in pavement design for the existing natural subgrade soils. A resilient modulus value of 10,000 lbs/sq.in. is recommended for use in pavement design in conjunction with Type IBC subgrade treatment in accordance with ISS Section 207.04. Table 6 summarizes the recommended pavement design parameters for the predominant subgrade soils.

**Table 6 - Recommended Soil Parameters for Pavement Design**

<b>Existing Natural Subgrade Soil Resilient Modulus Value, lbs/sq.in.</b>	6,000
<b>Modified/Prepared Subgrade Soil Resilient Modulus Value, lbs/sq.in.</b>	10,000
<b>Predominant Subgrade Soils</b>	Silty Loam (A-6) / Silt (A-6)
<b>Percent Passing #200 Sieve</b>	95
<b>Percent Silt</b>	78
<b>Liquid Limit, percent</b>	36
<b>Plastic Limit, percent</b>	20
<b>Plasticity Index, percent</b>	16
<b>Approximate Depth to Ground Water, ft</b>	8 ft
<b>Natural Dry Density of Natural Subgrade Soil (pcf)</b>	110
<b>Natural Moisture of Natural Subgrade Soil, percent</b>	24
<b>Maximum Organic Content, percent</b>	<5
<b>Maximum Marl Content, percent</b>	<3
<b>Maximum Sulfate Content, ppm</b>	<100
<b>Filter Fabric Required for Underdrains</b>	Yes : 918.02 (b), Type 1A
<b>Subgrade Treatment</b>	Type IBC

The installation of pavement underdrains is typically considered good practice for enhancing the long-term performance of the pavement system. However, it is our understanding that Phase 1 and Phase 2 of the Fullerton Pike corridor project that are east of Rogers Street and are already complete reportedly do not have underdrains. It is our opinion that omitting pavement underdrains may diminish the long term performance of the pavement somewhat; although the minimally diminished long term performance will likely be offset by cost reduction from not installing the underdrains and adverse maintenance issues associated with the underdrains. Other mitigating factors regarding the benefit of subsurface underdrains for this project are that the natural ground water level is generally deeper in this area and much of the roadway is at grade or in fill sections so that a high ground water level condition affecting the pavement subgrade should not be a factor. The project owner has indicated a desire to limit underdrains and that in the absence of a maintenance program the underdrains will likely provide minimal long-term benefit. Therefore, it is recommended that underdrains only be included where necessary for the purpose of perpetuating an existing subsurface drainage system, which may be the case in the vicinity of Rockport Road and west of Rockport Road. Underdrains may also be considered in any sag vertical curves that are in a cut. If it is determined that underdrains are desirable at selected locations, the underdrains should be perforated underdrain pipe (ISS Section 715.02(d)) that is enveloped in aggregate for underdrains (ISS Section 718) that is wrapped within geotextile for underdrains (ISS Section 718). The geotextile for underdrains should be Type 1A non-woven geotextile according to ISS 918.02(b).

It is important to note that some of the subsurface soils at this project site consist of clay A-7-6 with liquid limits well in excess of 50. In accordance with ISS 207.01, soil with a liquid limit greater than 50 will not be allowed within the specified thickness of the subgrade treatment in cut sections and will not be allowed within 24 inches of the finished subgrade elevation in fill sections. Thus, it is anticipated that only the soils in the upper portion of the soil stratigraphy that are classified as silty loam (A-6), silt (A-6), silty clay loam (A-6) and silty clay (A-7-6) can be used within the subgrade depth zone described above. It should also be noted that the silt (A-6) soils have a maximum dry density of 97 lbs./cu.ft, which are considered acceptable as part of a chemically modified subgrade treatment according to RSP 207-R-687, and which is recommended for this project for all pavements (subgrade treatment Type IBC). If a subgrade treatment other than chemical modification is used, the silt (A-6) soils would also be prohibited from the subgrade as defined above for the high plasticity soils. Soils classified as clay (A-7-6) and silt (A-6) can be used as embankment fill provided that the soils are placed and compacted in accordance with ISS 203.

The pavement subgrade conditions are anticipated to consist of cohesive soils that contain significant amounts of silt such as silt (A-6), silty clay loam (A-6) and silty loam (A-6), and the in-situ moisture contents of these soils are anticipated to generally be in excess of the associated optimum moisture contents of these soils. Although the soils encountered in the test borings appear to be suitable for support of the new pavements in the current, confined, in-situ conditions; it must be understood that even those soils that may currently be relatively firm can easily become unstable during construction when exposed to precipitation, ground water seepage and especially construction traffic. Furthermore, our experience indicates that most subgrade soils beneath existing pavements will likely be soft or yielding once the existing pavement section is removed, regardless of the presence of the existing pavement and the apparently firm soils in the test borings. A considerable amount of the

new-terrain pavement subgrade will also be in “at-grade” sections where little or no fill is required. Therefore, based upon experience and engineering judgement, it is our opinion that it is likely that some form of pavement foundation modification or improvement will be required in some areas before the subgrade treatment is applied. It is not possible to accurately determine beforehand the specific locations or the extent of the pavement subgrade requiring modifications or improvements, or the amount of pavement foundation soil modification or improvement that may be required since this is primarily dependent upon numerous uncontrollable and/or unpredictable variables including seasonal conditions (problematic soils are more likely to occur during late fall, winter or spring), the depth below the ground surface, the presence of saturated silt layers, the sequencing of construction, construction equipment and methods and the specific soil type encountered at the pavement foundation level.

In order to address pavement foundation soil problems as discussed above, it is suggested that a quantity of pavement foundation soil improvement (e.g., chemical modification with lime) should be included in the contract to be used where determined to be necessary based upon field observations at the time of construction in order to provide a suitable foundation for the pavement subgrade. Table 7 below includes areas where pavement foundation soil improvements could potentially be required; however, due to the variable subsurface conditions that can vary over relatively short distances both vertically and horizontal, it is emphasized that these areas should be considered strictly for planning purposes only and should not be considered to be definitive or absolute and some of the areas included in the table will likely not require any type of improvement while there are likely areas not included in the table that will require subgrade foundation improvement. The actual areas requiring pavement foundation improvement will need to be determined in the field at the time of construction based upon the actual condition of the soils exposed at the specific locations and the specific times. The actual extent/magnitude of pavement foundation soil improvement will depend to a large extent upon prevailing weather conditions, the construction schedule, sequencing of the earthwork and the methods and procedures utilized by the earthwork contractor. The foundation improvement shall be at the discretion of the Engineer.

**Table 7 – Estimated Areas Potentially Requiring Pavement Foundation Improvements**

<b>Line</b>	<b>Station Range</b>	<b>Offset Range</b>
“PR-A”	256+00 to 257+50	28 ft left to 28 ft right
“PR-A”	270+00 to 274+50	22 ft left to 22 ft right
“PR-A”	285+50 to 290+50	22 ft left to 22 ft right
“PR-A”	295+00 to 299+00	22 ft left to 22 ft right
“PR-A”	303+00 to 305+00	22 ft left to 22 ft right
“PR-A”	313+50 to 315+50	28 ft left to 28 ft right

Some areas requiring pavement foundation improvement may be too small for chemical modification to be practical. In these cases, foundation improvement shall be in accordance with ISS 214 and consist of a maximum of 18 inches of excavation below the bottom of subgrade elevation. A

geotextile in accordance with the ISS Sections 214 and 918.02(c) Type 2A shall be placed at the bottom of the excavation. The excavation shall then be backfilled with INDOT #5 stone to an elevation 6 inches below the base of the subgrade. The geotextile placed at the base of the excavation shall consist of sufficient excess, such that it can be wrapped around and over the top of the INDOT #5 stone as a second layer of geotextile. Above this second layer of geotextile, 6 inches of INDOT #53 stone shall be placed to the elevation of the bottom of the subgrade treatment. The subgrade treatment shall then be constructed on top of the foundation improvement. The foundation improvement shall be at the discretion of the Engineer.

#### **5.4 Embankments and Site Grading**

It is our understanding that the current plans are based upon embankment side slopes of 3 (horizontal) to 1 (vertical), although embankment sideslopes as steep as 2.5 (horizontal) to 1 (vertical) will be required in several isolated areas within the project limits. Cut slopes of 3 (horizontal) to 1 (vertical), or flatter, are also planned. It is our opinion that the earth embankments and cut slopes for this project can be constructed with the planned sideslopes that are indicated on the Stage 2 plans (i.e., primarily 3 (horizontal) to 1 (vertical), or flatter, sideslopes with several isolated areas that are slightly steeper). All embankments with side slopes that are steeper than 3 (horizontal) to 1 (vertical) should be suitably protected with erosion control measures compatible with the inclination of the slope.

The soils on west side of the Clear Creek valley in the general vicinity of Borings RB-06 and RB-06-A were determined to be wet and softer, and appear to consist of uncontrolled fill materials in some cases. The referenced borings were drilled in a generally low-lying, poorly-drained area where it is expected that soft, wet, unsuitable soils likely exist throughout. Furthermore, loose or soft, uncontrolled fill materials associated with the former limestone quarry operation and the railroads may exist on the north side of Fullerton Pike between the Clear Creek valley and Rockport Road. Thus, it is expected that some embankment foundation soil improvement will likely be required in these areas.

Based on the general consistency of the soils that were encountered in the test borings and our experience on other projects with similar soil conditions, and depending upon seasonal conditions; it is anticipated that embankment foundation soil problems, such as softer or wet foundation soils, may be encountered within some of the embankment foundation areas (including those as described in the preceding paragraph). Some of the embankment foundation soils that may currently be relatively firm can easily become unstable during construction when exposed to precipitation and construction traffic. In order to attain a suitable foundation for constructing the embankments, the embankment foundation soils in some areas may require improvement or stabilization of softer cohesive. For larger areas, chemical modification (such as lime or cement modification) will likely be the most appropriate soil improvement or treatment method. However, some embankment foundation areas requiring improvement may be too small for chemical modification to be practical or chemical modification may not be desirable due to the specific location of the area, project constraints, requirements, etc. In these cases, the embankment foundation soils can be improved by removing the unstable or unsuitable soils and replacing them with INDOT #53 crushed limestone on geogrid (ISS Section 918.05 Type IB geogrid). The actual depth of removal will need to be determined based on specific field conditions at each location at the time of construction.



It is not possible to accurately determine beforehand the specific locations and areas of embankment foundations requiring modifications or improvements or the amount of embankment foundation soil modification or improvement that may be required since this is entirely dependent upon numerous uncontrollable or unpredictable variables including seasonal conditions (problematic soils are more likely to occur during late fall, winter or spring), the sequencing of construction, construction equipment and methods and the specific soil type encountered at the foundation level.

In order to address embankment foundation soil problems as discussed in the receding paragraphs, it is suggested that a quantity of foundation soil improvement (e.g., chemical modification with lime or removal of 2 feet of existing unsuitable soils and replacement with crushed limestone on geogrid) should be included in the contract to be used where determined to be necessary based upon field observation at the time of construction. Table 8 below includes areas where embankment foundation soil improvements could potentially be required; however, due to the variable subsurface conditions that can vary over relatively short distances both vertically and horizontal, it is emphasized that these areas should be considered strictly for planning purposes only and should not be considered to be definitive or absolute and some of the areas included in the table will likely not require any type of improvement while there are likely areas not included in the table that will require foundation improvement. The actual areas requiring foundation improvement will need to be determined in the field at the time of construction based upon the actual condition of the soils exposed at the specific locations and the specific times. The actual extent/magnitude of embankment foundation soil improvement will depend to a large extent upon prevailing weather conditions, the construction schedule, sequencing of the earthwork and the methods and procedures utilized by the earthwork contractor. The embankment foundation improvement shall be at the discretion of the Engineer.

**Table 8 – Estimated Areas of Potential Embankment Foundation Improvements**

Line	Station Range	Offset Range
"PR-A"	264+00 to 266+50	60 ft Left to 50 ft Right
"PR-A"	275+00 to 276+25	60 ft Left to 40 ft Right
"PR-A"	282+25 to 284+50	50 ft Left to 60 ft Right

However, due to the extremely variable subsurface conditions that may vary over relatively short distances, it is emphasized that this quantity should be considered strictly for planning and estimating purposes only and should not be considered to be definitive or absolute. The actual areas requiring embankment foundation improvement will need to be determined in the field at the time of construction based upon the actual condition of the soils exposed at the specific locations and the specific time. Although it is estimated that either chemical modification with lime or cement, or 2 feet of removal of existing soils and replacement with crushed limestone on geogrid will be sufficient in most areas to provide suitable embankment foundation improvement (where required), the actual depth of removal of unsuitable soils will need to be determined based on careful inspection of the specific field conditions at each location at the time of construction. The actual extent/magnitude of foundation

improvement will depend to a large extent upon weather conditions, the construction schedule, sequencing of the earthwork and the methods and procedures utilized by the earthwork contractor.

It is important that all earth fill that is placed adjacent to the existing roadway embankments be carefully benched into the existing embankments in accordance with INDOT Standard Specifications Section 203.21 in order to preclude a weak zone from forming at the interface between the existing embankment soils and the new fill soil. All earthwork should be performed in accordance with current INDOT Standard Specifications.

Geotextile for riprap, such as for the spill-through slopes at the bridge abutments, should be Type 1A non-woven according to INDOT Standard Specifications Section 918.02(a).

Based upon the depths at which auger refusal was encountered in the test borings, it appears that it may be necessary to excavate bedrock in some areas. Although the upper portions of some of the rock core samples retrieved were somewhat weathered and fractured in some cases, the limestone bedrock at this site is generally considered to be too hard to be removed with conventional soil excavation equipment. Jack-hammering or other pneumatic rock removal equipment (or blasting, if permitted by the owner at this location and feasible) will likely be necessary to remove the bedrock in areas where excavation into bedrock is required.

#### **5.4.1 Karst Features**

The results of the karst study performed by American Structurepoint, Inc. (refer to American Structurepoint Inc. Memorandum for Karst Features Re-Evaluation dated December 21, 2020 in Appendix F of this report), indicates the presence of various documented surface karst features within the immediate vicinity of the project area. The karst feature reevaluation identified four existing sinkholes within the project right-of-way, with one such sinkhole located near the intersection of Fullerton Pike and Rockport Road and three sinkhole features that are located near the existing Clear Creek pedestrian trail on the north side of the proposed roadway. Another significant sinkhole was observed in the field south of the roadway right-of-way, west of Clear Creek (south of approximately Station 267+00). It was determined by American Structurepoint, Inc. that none of the currently identified karst features will be impacted by the new construction.

It is important to note that the coring water used for coring the bedrock was lost in several of the test borings indicating the potential for solution features within the limestone bedrock formation at those locations. The occurrence of several karst features in the vicinity of the proposed roadway along with apparent solutioning or open joints within the limestone bedrock suggest that karst features could be possible at various elevations within the limestone bedrock. Thus, it should be anticipated that some undocumented or currently obscured karst features could be encountered or identified during construction of the new roadway that will require treatment or remediation to prevent future subsidence and/or damage to the embankments, bridge and roadway.

Based upon the results of the karst study and the test drilling program performed for this study; it is our opinion that it can be reasonably concluded that the general bedrock mass underlying the project area appears to have the character, continuity and condition such that extensive karst mitigation or remedial measures (e.g., grouting or filling of openings within the bedrock, etc.) of deeper subsurface

karst features does not appear to be warranted or necessary for this project. It is important to understand, however, that there are likely solution features of unknown sizes and dimensions within the bedrock underlying the project site. Any solution features that are exposed should be properly treated to not interrupt the current drainage patterns and to attempt to perpetuate the current balance or flow of ground water. Thus it is possible that solution features may be encountered that will require some surface preparation or treatment measures as described herein. A typical remediation process is described in Section 5.4.2.

It is important to understand that it is not possible to rule out future subsidence due to collapse of soil or bedrock in a karst geologic setting, however, the risk of such subsidence at this site appears to be relatively low. It must be understood that construction in a karst geologic area is accompanied by some inherent risk that soil erosion, rock collapse and ground subsidence could occur and affect the earth embankments, bridge or roadway in the future. It is not possible to investigate a site so thoroughly that all karst related risks can be identified with complete certainty nor can design features be implemented to completely eliminate the possibility of all future karst related problems. The owner must understand and accept this risk when constructing in such a geologic setting.

#### **5.4.2 Surface Karst Feature Remediation**

ATC should be retained to examine the exposed ground and to assist in identifying karst features or potential collapse features and providing recommendations relative to treating and stabilizing any karst features that are identified. Specific recommendations for karst feature treatment or stabilization would be made at the time of construction based upon the specific condition encountered at each location at the time the features are identified.

After clearing of the site and prior to placement of any fill in the embankment fill areas, the project geotechnical engineer should evaluate the exposed ground surface for indications of karst activity after the natural ground surface has been stripped. Any exposed karst features, (i.e., caves, sinkholes, grikes, sinking streams, voids, soil filled cracks, crevices, etc.) revealed by the evaluation and the proofrolling inspection must be properly stabilized and treated before any new embankment fill is placed. Because of the wide variability in characteristics of karst features, the specific details for treatment or stabilization of any karst feature must be made based on the results of the geotechnical engineer's field evaluations at the time of the inspection.

In general, the treatment or stabilization of identified karst features could consist of removing soil material to some depth within sinkholes, karst features, cracks and crevices, etc. to completely expose the bedrock opening or "throat" of the karst feature. The opening or throat of the feature should then be "choked-off" with large pieces of limestone of the size determined necessary to effectively "choke-off" the opening based upon visual observation of the throat or opening. The larger crushed limestone would then be capped with layers of progressively smaller graded crushed stone, with a layer of INDOT No. 53 crushed limestone as the final choking layer at the top. The crushed limestone could be covered with a non-woven geotextile (Type 1A non-woven geotextile, INDOT Standard Specifications Section 918.02(a)) and soil fill could then be placed to establish the final grade. A sketch depicting the general conceptual karst feature treatment is included in Figure 11 in Appendix A. As is evident from the test borings for this project, it is not possible to precisely characterize the earth mass and karst features; and thus considerable field judgment will be required

when evaluating exposed karst features to establish the extent of required treatment of the solution feature and what means are appropriate for treatment based upon available data, experience, engineering judgment and acceptance of the inherent risk of constructing in karst terrain.

It is important that existing drainage of karst features that are identified should be perpetuated to prevent redirection of the current drainage paths and continuance of the current drainage conditions to the extent possible. Changes in natural drainage paths can result in diversion of water to areas that could result in additional soil erosion that could be detrimental to the project. No additional drainage should be diverted into karst features. Specific measures for proper drainage of solution features will need to be based on the specific conditions encountered in the field at the time of construction and significant judgement will be required. In general, it should be the goal to not plug-off existing drainage paths, either into or out of the bedrock, and to provide proper drainage measures as determined necessary to perpetuate the natural drainage. Thus, graded stone filters as discussed previously are generally preferred rather than sealing off a karst feature with concrete. Any reasonable measures to control surface drainage should be implemented to limit further surface water infiltration into the embankments.

## 6 GENERAL CONSTRUCTION PROCEDURES AND RECOMMENDATIONS

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Since this investigation identified actual subsurface conditions only at the test boring locations, it was necessary for our geotechnical engineers to extrapolate these conditions in order to characterize the entire project site. Even under the best of circumstances, the conditions encountered during construction can be expected to vary somewhat from the test boring results and may, in the extreme case, differ to the extent that modifications to the recommendations become necessary.

### 6.1 Site Preparation and Earthwork

Any topsoil, as well as any wet, soft or otherwise unsuitable surficial bearing soils should be stripped from the project site within the construction limits prior to construction of the roadway subgrade and pavement. Proofrolling of the foundation soils should be performed in accordance with the INDOT Standard Specifications, Section 203.26 within all areas where new fill or pavement will be placed. Care should be exercised during grading operations at the site. Due to the nature of the near-surface soils, the traffic of heavy equipment, including heavy compaction equipment, may create pumping and general deterioration of the shallower soils, especially if excess surface water is present. The grading, therefore, should be done during a dry season, if possible.

### 6.2 Placement and Compaction of Engineered Fill

Engineered fill should be placed in lift thicknesses not to exceed about 8 in. and compacted to a minimum of 95 percent of the standard Proctor maximum dry density (AASHTO T99) as specified in the current INDOT Standard Specifications. It is likely that some drying of the fill material will be required before being placed in order to meet the INDOT Specification for fill placement. It is probable that this will also be the case for most of the soil materials encountered within the range of subgrade treatment. However, adequate moisture conditioning may be difficult during wet seasons and, during

such seasons, a granular material may be necessary to satisfy the minimum compaction requirements.

Where fill material is placed on existing slopes, benches should be cut into the existing slopes so as to preclude a shear plane from developing at the interface. Benches having a minimum width of 10 ft should be cut into the natural slopes and existing embankment side slopes that are 4 (horizontal) to 1 (vertical), or steeper, before new engineered fill is placed. These benches should be excavated in accordance with Section 203.21 of the INDOT Standard Specifications.

### **6.3 Pile Installation**

In order to confirm that the new piles are properly installed, it is recommended that a representative of the geotechnical engineer who is independent of the contractor perform continuous inspection during pile installation. An accurate record should be kept of the date, time, depth of penetration, driving resistance and other pertinent data for each pile as well as the characteristics of the pile driver that is used. The pile driver should have sufficient energy to drive the piles to bearing as prescribed in Section 5.2 of this report. To verify proper pile resistance, the driving criteria to be used during production pile driving should be determined based upon the pile hammer and pile section that is used. The driving criteria will be established by the geotechnical engineer at the time of construction once the specific details regarding pile installation have been established. All pile driving should be done in accordance with INDOT Standard Specifications Section 701.

### **6.4 Drilled Shaft Foundation Installation**

Installation of the drilled shaft foundations in the geologic formation that underlies this site may be difficult due to layers of sandy loam, silt and saturated granular layers. Free ground water was encountered in all of the test borings at shallow depths and also within sand strata above the bedrock surface. The drilled shaft contractor must be prepared to install the shafts through these saturated soils, some of which may be under significant hydrostatic pressure. The hydrostatic water pressure within granular layers is often much higher than the top of the granular layer in which the water is contained. If drilling fluids are required, it is recommended that only polymer slurry be used.

It is important to retain an experienced, competent drilled shaft contractor, who should be responsible for properly installing the drilled shaft foundations in accordance with the current industry standards and generally accepted methods without causing deterioration of the soils around the shafts. It is important that the drilled shaft excavations remain stable while maintaining the proper geometry with accurate placement of the reinforcing steel. The installation of the casing, excavation of the drilled shaft, inspection of the bedrock socket materials and placement of the concrete shall be observed by the geotechnical engineer. The bedrock at the base of the drilled shaft foundation excavations shall be observed by the geotechnical engineer to verify the shaft extends to the proper bearing elevation and that the shaft is socketed at the appropriate depth into competent bedrock. The drilled shaft must bear in competent bedrock and extend to the bottom of the drilled shaft elevations noted in Section 5.2.3, or deeper as necessary to socket the shafts into the competent bedrock. The drilled shaft quality assurance can be performed without entering the shaft excavation by observing the drilling operations and auger-cuttings throughout the entire length of the shaft excavation to verify that the material at the bearing elevation is competent bedrock. If unsuitable conditions are encountered at

the design bearing elevation, the shaft excavation shall be extended until suitable bearing conditions are encountered.

It is important that the entire drilled shaft construction process be carefully monitored and observed by a representative of the geotechnical engineer from the beginning of drilling until concrete placement is complete to verify that the otherwise competent soils/bedrock are not adversely affected by ground water seepage, surface water infiltration, inadequate casing, insufficient concrete head, etc. and that the installation procedures do not compromise the integrity of the drilled shafts. It is important that the drilled shaft contractor understand the shafts will be constructed through saturated layers of granular soil that may be under hydrostatic pressure.

If the shaft excavation is to be entered (which is not recommended), all local, state and federal safety regulations regarding confined space entry shall be followed. No open flame shall be permitted on the site near the drilled shaft excavation and no personnel shall be allowed to enter the excavation until proper safety precautions for confined space entry have been taken. Such precautions shall include proper personal protective equipment and monitoring of the excavations for explosive vapors and oxygen deficiency. Additional safety measures may be needed depending upon the specific conditions at the foundation location, the construction procedures employed and the applicable local, state and federal Occupational Safety and Health Regulations.

### **6.5 Construction Dewatering**

Some temporary dewatering will likely be required during construction. The best dewatering system for each case should be determined at the time of construction based upon actual field conditions encountered at the locations requiring temporary dewatering.

## **7 LIMITATIONS OF STUDY**

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An inherent limitation of any geotechnical engineering investigation is that conclusions must be drawn on the basis of data collected at a limited number of discrete locations. The recommendations provided in this report were developed from the information obtained from the test borings that depict subsurface conditions only at these specific locations and at the particular time designated on the test boring logs. Soil, bedrock and ground water conditions at other locations may differ from conditions occurring at the test boring locations. The nature and extent of variations between the borings may not become evident until the course of construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report after performing on-site observations and noting the characteristics of any variations.

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the field of geotechnical engineering at the time when the services were performed and at the location where the services were performed. This warranty is in lieu of all other warranties either express or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data, or any other information, presented in this report.

The scope of our services does not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in the soil, ground water or surface water within or beyond the site studied.

Any comments or recommendations made herein regarding construction related issues are solely for the purpose of planning the design of the proposed facilities. The scope of this investigation is not sufficient to identify all potential construction related issues, variations, anomalies, etc., or all factors that may affect construction means, methods and costs.

ATC assumes no responsibility for any construction procedures, temporary excavations (including utility trenches), temporary dewatering or site safety during or after construction. The contractor shall be solely responsible for all construction procedures, construction means and methods, construction sequencing and for all safety measures during construction as well as the protection of all existing facilities. All applicable federal, state and local laws and regulations regarding construction safety shall be followed, including current Occupational Safety and Health Administration (OSHA) Regulations including OSHA 29 CFR Part 1926 “Safety and Health Regulations for Construction”, Subpart P “Excavations”, and/or successor regulations. The Contractor shall be solely responsible for designing and constructing stable, temporary excavations and should brace, shore, slope, or bench the sides of the excavations as necessary to maintain stability of the excavation sides and bottom and to protect the integrity of all existing facilities.

# Appendices

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VICINITY MAP – Figure 2  
BORING PLANS - ROADWAY – Figures 3 through 7  
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## **APPENDIX C**

SUMMARY OF CLASSIFICATION TEST RESULTS  
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ATTERBERG LIMITS TEST RESULTS  
SUMMARY OF SPECIAL LAB TESTS  
MOISTURE DENSITY RELATIONSHIP REPORTS  
RESILIENT MODULUS TEST RESULTS  
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## **APPENDIX D**

AASHTO SEISMIC PARAMETERS

## **APPENDIX E**

DRILLED SHAFT FOUNDATION ANALYSES  
SPREAD FOOTING ANALYSES

## **APPENDIX F**

MEMORANDUM – KARST FEATURES RE-EVALUATION



## **APPENDIX A**

PROJECT LOCATION MAP – Figure 1

VICINITY MAP – Figure 2

BORING PLANS - ROADWAY – Figures 3 through 7

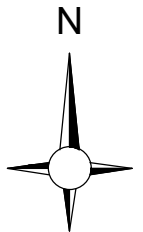
BORING PLAN – MONROE COUNTY BRIDGE NO. 315 – Figure 8

GENERALIZED SUBSURFACE PROFILE – MONROE COUNTY BRIDGE NO. 315 – Figure 9

LEGEND FOR GENERALIZED SUBSURFACE PROFILE – Figure 10

CONCEPTUAL KARST FEATURE TREATMENT – Figure 11

PROJECT  
LOCATION



## PROJECT LOCATION MAP

FULLERTON PIKE EXTENSION  
ROKPORT ROAD TO ROGERS STREET  
BLOOMINGTON, MONROE COUNTY, INDIANA

Project Number:  
170GC01077

Drawing File:  
SEE LOWER LEFT

Date:  
12/28/2020

Scale:  
NOT TO SCALE

Dwn. By:  
BH

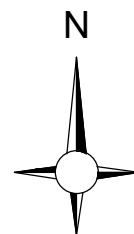
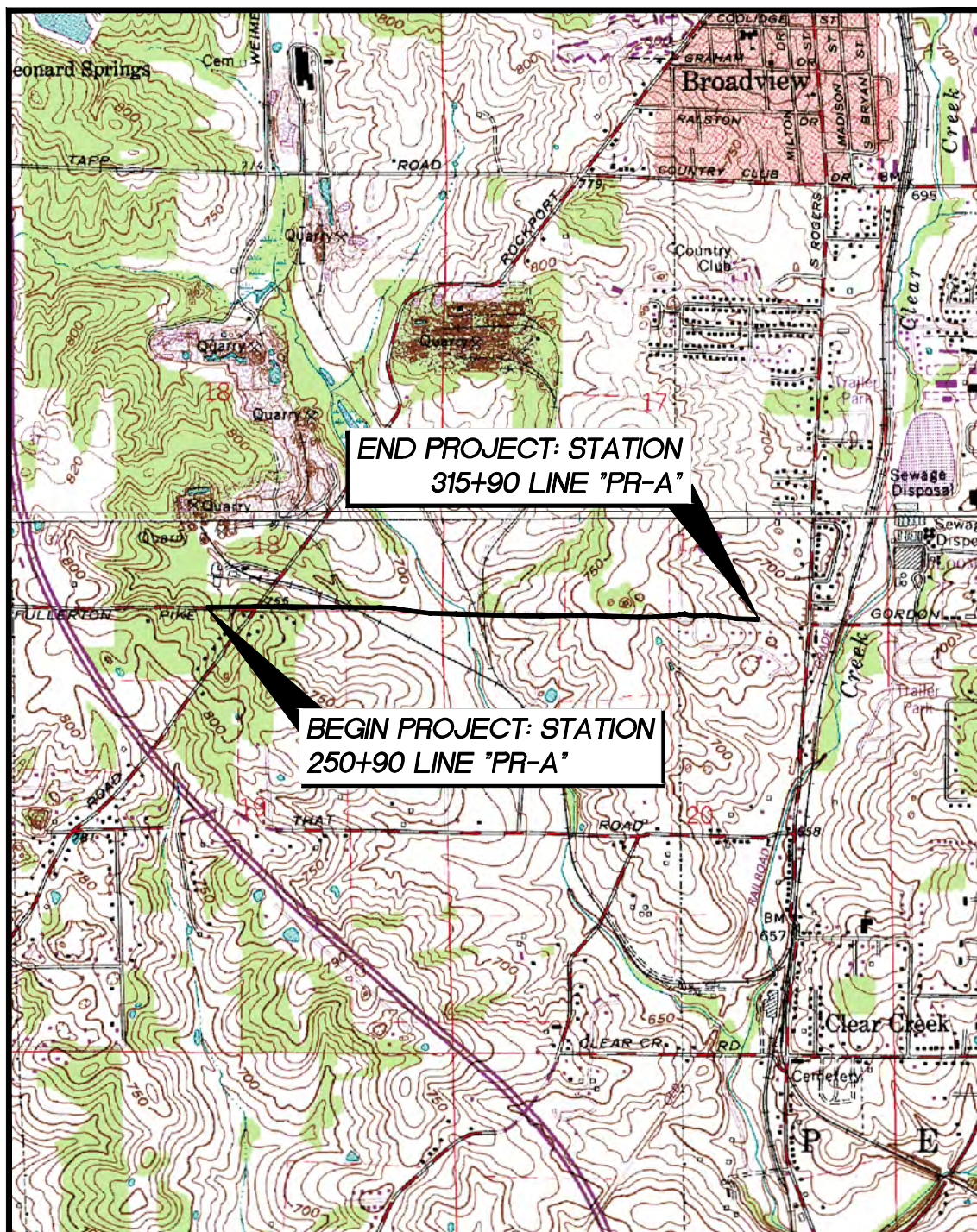
Ckd. By:  
TS

App'd By:

Figure:



1



## VICINITY MAP

FULLERTON PIKE EXTENSION - PHASE III  
 ROCKPORT ROAD TO ROGERS STREET  
 INDOT DES. NO. 1802977  
 BLOOMINGTON, MONROE COUNTY, INDIANA

Project Number:  
 170GC01077  
 Drawing File:  
 SEE LOWER LEFT

Date:  
 03/04/2021

Scale:  
 1"= 2,000'



Drn. By:  
 BH  
 Ckd. By:  
 TS  
 App'd By:

Figure:

2



H:\2020\AMERICAN STRUCTUREPOINT INC\FULLERTON PIKE PHASE 3\GEO TECH\170GC01077-B\PLAN.DWG, FIG 3



Project Number: 170GC01077		Drn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: TS
		App'd By:
		Ckd. Date:

BORING PLAN - STATION 250+00 TO 262+00

FULLERTON PIKE EXTENSION - PHASE III

ROCKPORT ROAD TO ROGERS STREET

INDOT DES. NO. 1802977

BLOOMINGTON, MONROE COUNTY, INDIANA

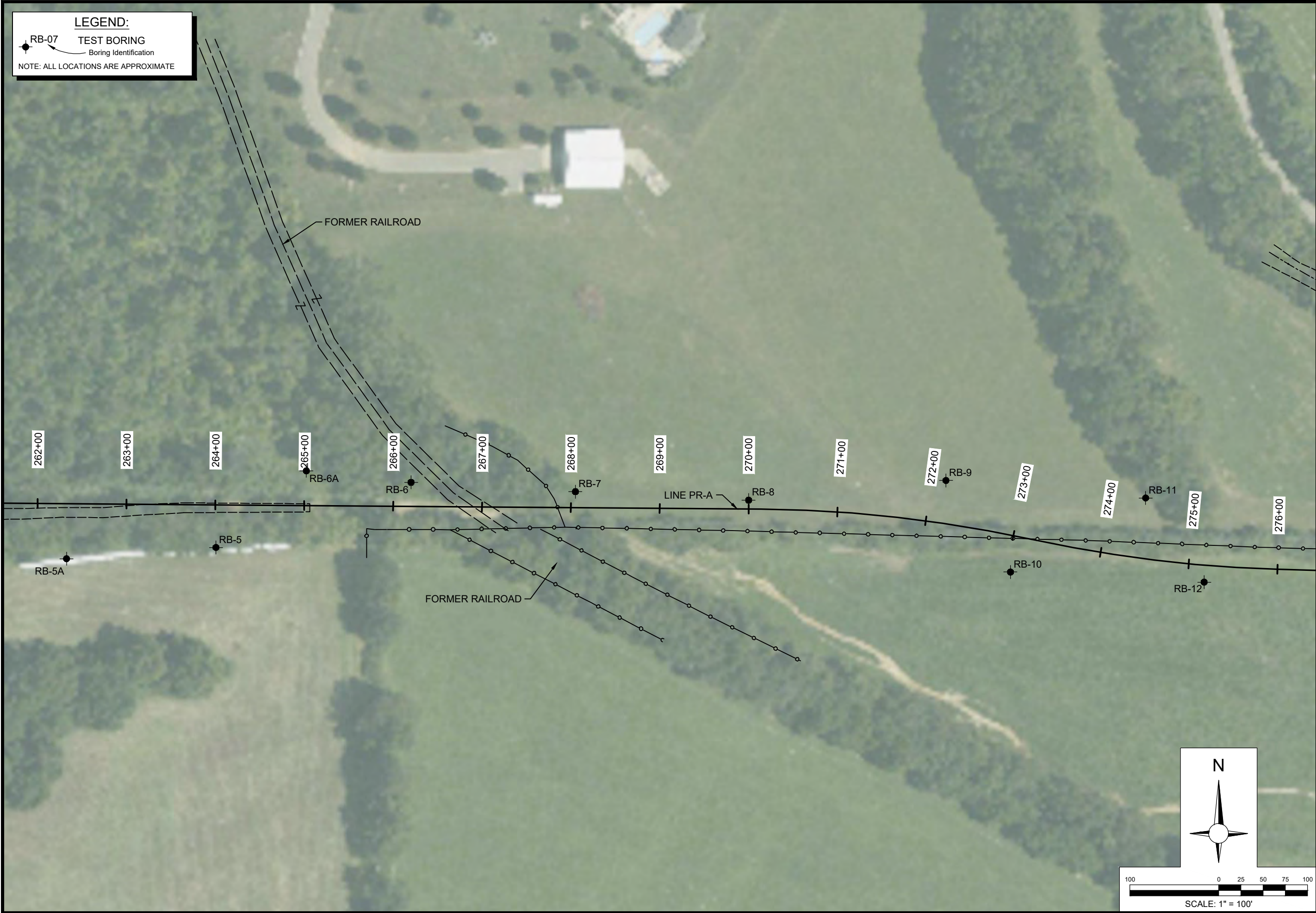
Date:  
01/27/2021

Scale:  
AS SHOWN

Figure:  
3



H:\2020\AMERICAN STRUCTUREPOINT INC\FULLERTON PIKE PHASE 3\GEO TECH\170GC01077-B\PLAN.DWG, FIG 4



Project Number: 170GC01077		Dwn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: TS
		App'd By:
		Ckd. Date:

BORING PLAN - STATION 262+00 TO 276+00

FULLERTON PIKE EXTENSION - PHASE III

ROCKPORT ROAD TO ROGERS STREET

INDOT DES. NO. 1802977

BLOOMINGTON, MONROE COUNTY, INDIANA

Date:  
01/27/2021

Scale:  
AS SHOWN

Figure:  
4



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Project Number:		170GC01077
Drawing File:		SEE LOWER LEFT
Project Name:		<b>BORING PLAN - STATION 276+00 TO 290+00</b>
Project Description:		FULLERTON PIKE EXTENSION - PHASE III ROCKPORT ROAD TO ROGERS STREET INDOT DES. NO. 1802977 BLOOMINGTON, MONROE COUNTY, INDIANA
Date:		01/27/2021
Scale:		AS SHOWN
Figure:		5
Drn. By:	BH	
Ckd. By:	TS	
App'd By:		
Ckd. Date:		





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LEGEND:

RB-20

TEST BORING

Boring Identification

NOTE: ALL LOCATIONS ARE APPROXIMATE

Project Number: 170GC01077		Dwn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: TS
<div>ATC</div>		App'd By:
		Ckd. Date:

BORING PLAN - STATION 290+00 TO 304+00

FULLERTON PIKE EXTENSION - PHASE III

ROCKPORT ROAD TO ROGERS STREET

INDOT DES. NO. 1802977

BLOOMINGTON, MONROE COUNTY, INDIANA

Date:  
01/27/2021


Scale:  
AS SHOWN

Figure:  
6



H:\2020\AMERICAN STRUCTURE\POINT INC\FULLERTON PIKE PHASE 3\GEO TECH\170GCO1077-B\PLAN.DWG, FIG 7



Project Number: 170GCO1077		Dwn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: TS
		App'd By:
		Ckd. Date:

**BORING PLAN - STATION 304+00 TO 315+90**  
FULLERTON PIKE EXTENSION - PHASE III  
ROCKPORT ROAD TO ROGERS STREET  
INDOT DES. NO. 1802977  
BLOOMINGTON, MONROE COUNTY, INDIANA

Date:  
01/27/2021

Scale:  
AS SHOWN

Figure:  
**7**




H:\2020\AMERICAN STRUCTUREPOINT INC\FULLERTON PIKE PHASE 3\GEO TECH\170G001077-4BRIDGE.DWG, FIG 8



**LEGEND:**

TB-1 TEST BORING  
Boring Identification

NOTE: ALL LOCATIONS ARE APPROXIMATE

Project Number: 170G001077		Dwn. By: BH
Drawing File: SEE LOWER LEFT		Ckd. By: TS
		App'd By:
		Ckd. Date:

**BORING PLAN - MONROE COUNTY BRIDGE NO. 315**

FULLERTON PIKE EXTENSION - PHASE III

ROCKPORT ROAD TO ROGERS STREET

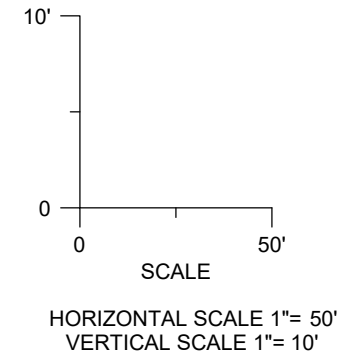
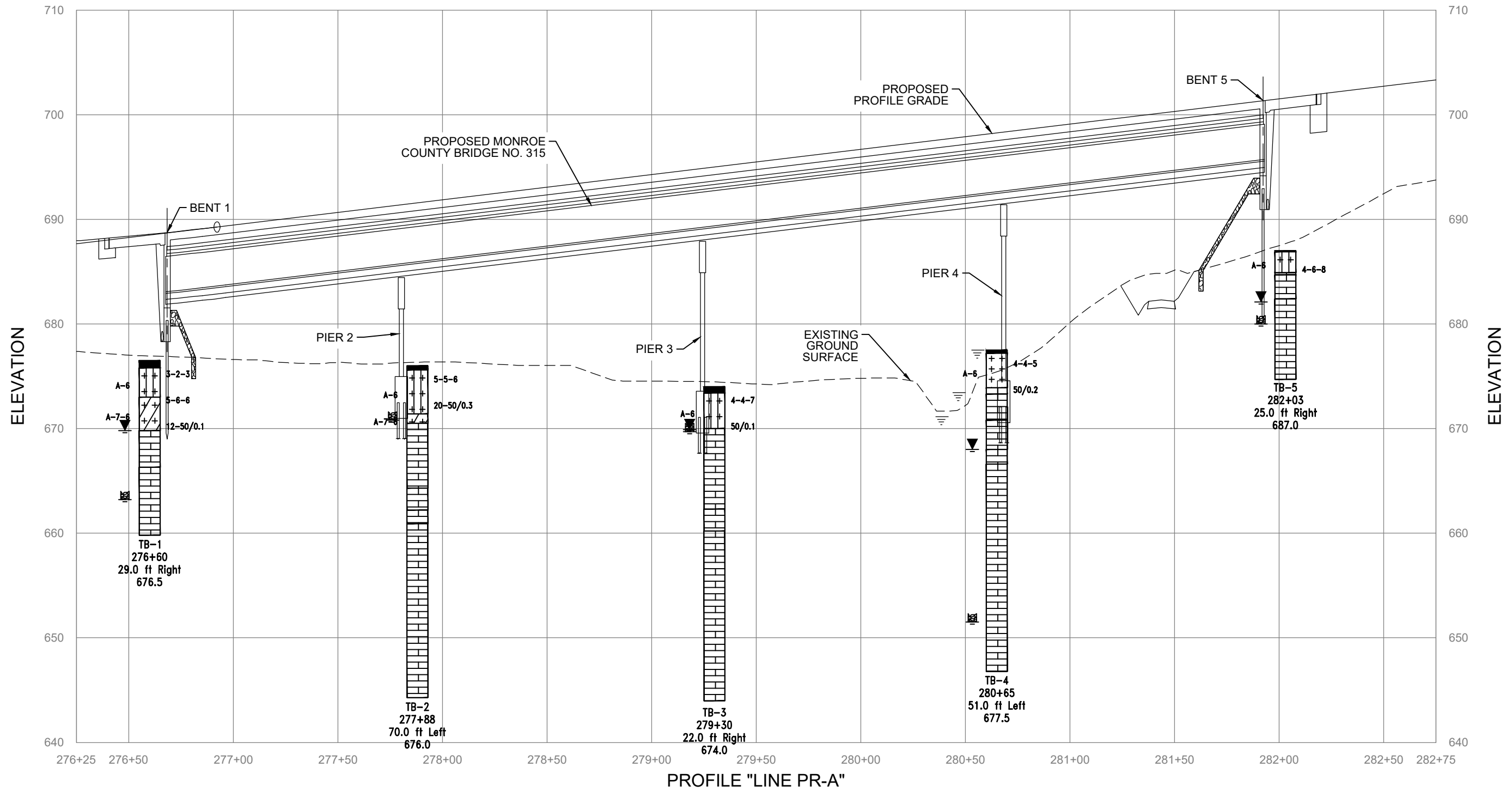
INDOT DES. NO. 2001721

BLOOMINGTON, MONROE COUNTY, INDIANA

Date: 01/08/2021
Scale: AS SHOWN
Figure: 8



H:\2021\AMERICAN STRUCTUREPOINT INC\FULLERTON PIKE\170GC01077-BRIDGE.DWG, FIG9



Drn. By:	BH	Project Number:	170GC01077
Ckd. By:	TS	Drawing File:	SEE LOWER LEFT
App'd By:			
Ckd. Date:			

GENERALIZED SUBSURFACE PROFILE - MONROE COUNTY BRIDGE NO. 315

FULLERTON PIKE EXTENSION - PHASE III

ROCKPORT ROAD TO ROGERS STREET

INDOT DES. NO. 2001721

BLOOMINGTON, MONROE COUNTY, INDIANA

Date:

02/22/2021

Scale:

AS SHOWN

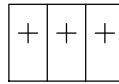
Figure:

9

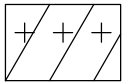
## LITHOLOGY LEGEND:



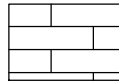
Indiana DOT: Top  
Soil



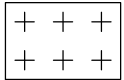
Indiana DOT: Silty  
Loam



Indiana DOT: Silty  
Clay

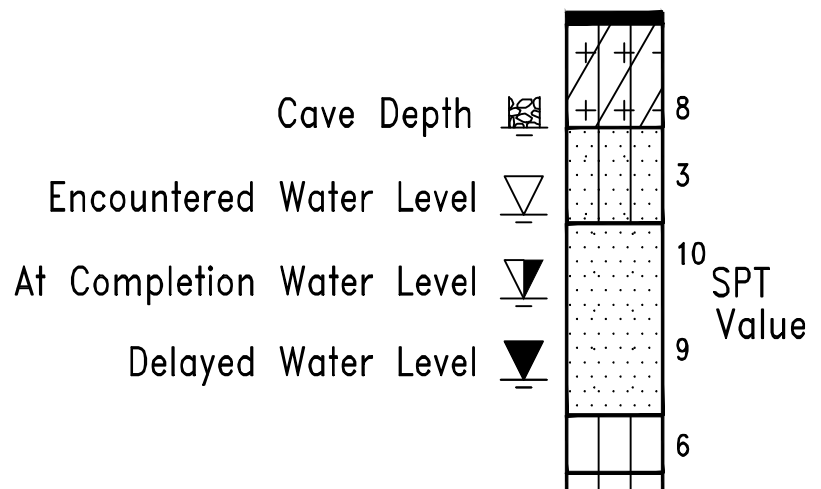


Limestone



Indiana DOT: Silt

### Test Boring ID Location and Depth



### LEGEND FOR GENERALIZED SUBSURFACE PROFILE

FULLERTON PIKE EXTENSION – PHASE III  
ROCKPORT ROAD TO ROGERS STREET  
INDOT DES. NO. 2001721  
BLOOMINGTON, MONROE COUNTY, INDIANA

ATC Project Number:  
170GC01077

Drawing File:  
SEE LOWER LEFT

Date:  
02/22/2021

Scale:  
AS SHOWN

Drn. By:  
BH

Ckd. By:  
TS

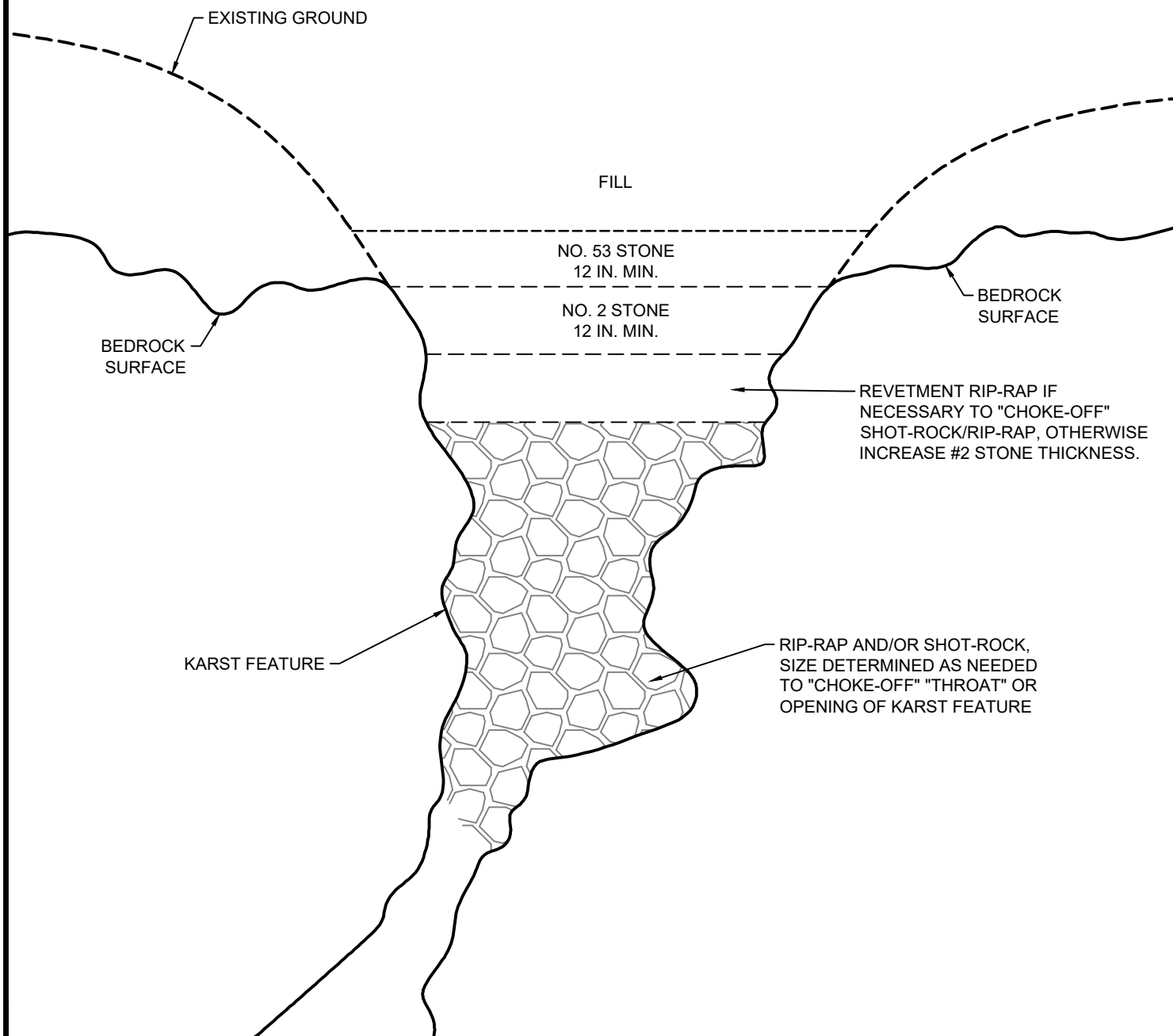
App'd By:

Figure:



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H:\2021\AMERICAN STRUCTUREPOINT INC\FULLERTON PIKE\170GC01077-KARST.DWG, KARST



## CONCEPTUAL KARST FEATURE TREATMENT

FULLERTON PIKE EXTENSION - PHASE III  
ROCKPORT ROAD TO ROGERS STREET  
INDOT DES. NO. 2001721  
BLOOMINGTON, MONROE COUNTY, INDIANA

Project Number:  
170GC01077

Drawing File:

Date:

Scale:  
AS SHOWN

Drn. By:  
BH

Ckd. By:  
TS

App'd By:

Figure:

**ATC**

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## **APPENDIX B**

CLASSIFICATION SYSTEM FOR SOIL EXPLORATION  
TEST BORING LOGS  
ROCK CORE PHOTOS

# CLASSIFICATION SYSTEM FOR SOIL EXPLORATION

## Particle Size Identification

(Based on INDOT Standard Specifications Section 903)

Boulders	- 3 in. (75 mm) diameter or more
Gravel	- 2.0 mm (No. 10 Sieve) to 3 in.
Sand (Coarse)	- 0.425 mm to 2.0 mm (No. 40 Sieve to No. 10 Sieve)
Sand (Fine)	- 0.075 mm to 0.425 mm (No. 200 Sieve to No. 40 sieve)
Silt	- 0.002 mm to 0.075 mm (No. 200 Sieve)
Clay	- Smaller than 0.002 mm

## NON-COHESIVE SOILS

(Silt, Sand, Gravel and Combinations)

### Density

Very Loose	- 5 blows/ft or less
Loose	- 6 to 10 blows/ft
Medium Dense	- 11 to 30 blows/ft
Dense	- 31 to 50 blows/ft
Very Dense	- 51 blows/ft or more

## COHESIVE SOILS

(Clay, Silt and Combinations)

### Consistency

Very Soft	- 3 blows/ft or less
Soft	- 4 to 5 blows/ft
Medium Stiff	- 6 to 10 blows/ft
Stiff	- 11 to 15 blows/ft
Very Stiff	- 16 to 30 blows/ft
Hard	- 31 blows/ft or more

### Plasticity

Degree of Plasticity	Plasticity Index
None to slight	0 - 4
Slight	5 - 7
Medium	8 - 22
High to Very High	over 22

Classifications shown on the test boring logs are made by visual inspection of samples and confirmed / modified based on index property tests.

**Standard Penetration Test** (AASHTO T 206) — Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary for ATC to drive the sampler 6 inches to seat the sampler into undisturbed soil, then perform the test. The number of hammer blows for seating the sampler and making the test are recorded for each 6 inches of penetration on the drill log (Example — 6-8-9). The standard penetration test result can be obtained by adding the last two figures (i.e., 8 + 9 = 17 blows/ft).

**Strata Changes** — In the column "Soil Classification" on the test boring logs, the horizontal lines represent strata changes. A solid line (\_\_\_\_\_) represents an actually observed change. A dashed line (\_\_\_\_\_) represents an estimated change.

**Ground Water** observations were made at the times indicated. Porosity of soil strata, weather conditions, site topography, etc., may cause changes in the water levels indicated on the logs.



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: **TB-1**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-19-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-20-20

ELEVATION : 676.5

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 276+60

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 29.0 ft Right

CASING DIA. : --

TEMPERATURE : 63 °F

LINE : 'PR-A'

CORE SIZE : 2.0

WEATHER : Sunny

DEPTH : 16.7 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ 6.7 ft After 24 hours ☒ Caved in at 13.3 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
675.0		<b>Topsoil</b> 8 inches 0.7											
		<b>Silty Loam A-6</b> , Dark brown, moist, soft, (Lab No. 1)	SS1	3-2-3	78	26.3							
	5	<b>Silty Clay A-7-6</b> , Dark brown, moist, stiff, with limestone fragments, (Lab No. 4)	SS2	5-6-6	56	24.6							
670.0			SS3	12-50/0.1	97	18.7							6.7, Auger Refusal at 6.7 ft
		<b>Limestone</b> Gray and tan, fossiliferous, vuggy	RC1		94								
			RQD= 49%										
	10												
665.0			RC2		100								
		<b>Limestone</b> Gray	RQD= 100%										
	15		RC3		93								
660.0			RQD= 93%										
		Bottom of Boring at 16.7 ft											
	20												20.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
655.0													
	25												
650.0													25.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
	30												
645.0													
	35												
640.0													
	40												



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: **TB-2**

SHEET 1 OF 1

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-20-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-21-20

ELEVATION : 676.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 277+88

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 70.0 ft Left

CASING DIA. : --

TEMPERATURE : 62 °F

LINE : 'PR-A'

CORE SIZE : 2.0

WEATHER : Cloudy

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 5.2 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
675.0		<b>Topsoil</b> 5 inches ----- 0.4				27.1							0.0, Topsoil sample collected
		<b>Silt A-6</b> , Brown, moist, stiff to very stiff, (Lab No. 8)	SS1	5-5-6	83			1.25					
			SS2	20-50/0.3	63	16.4							
670.0	5	<b>Silty Clay A-7-6</b> , Brown, moist, soft, (Lab No. 4) ----- 4.6 ----- 5.5											5.5, Auger refusal at 5.5 ft
		- void at 8.0 ft	RC1		74				624				8.0, Lost water return
		<b>Limestone</b> Gray and buff, slightly weathered	RQD= 28%										
665.0	10		RC2		100				475				
		<b>Limestone</b> Gray and tan, weathered, fractured, vuggy ----- 11.7	RQD= 66%										
		<b>Limestone</b> Gray, slightly weathered, slightly fossiliferous with thin clay seams ----- 13.8							397				
660.0	15		RC3		100				742				
			RQD= 96%										
			RC4		68				698				23.0, Lost water return
		- void at 23 ft	RQD= 46%										
		<b>Limestone</b> Gray, slightly weathered											
655.0	20		RC5		100								
			RQD= 100%										
650.0	25		RC6		100								30.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
			RQD= 100%										
645.0	30												
		Bottom of Boring at 31.7 ft											
640.0	35												35.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
	40												

ATC BORING LOG\_INDOT\_LAT LONG GC01077.GPJ INDOT TEMPLATE.GDT 3/3/21



ATC BORING LOG\_INDOT\_LAT LONG GC01077.GPJ INDOT TEMPLATE.GDT 3/3/21



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: **TB-4**

SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-12-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-13-20

ELEVATION : 677.5

STATION : 280+65

OFFSET : 51.0 ft Left

LINE : 'PR-A'

DEPTH : 30.7 ft

BORING METHOD : Hollow Stem Augers

RIG TYPE : D50 ATV (SN441)

CASING DIA. : --

CORE SIZE : 2.0

HAMMER : Auto

DRILLER/INSP : J. Mitchner/T. Struewing

TEMPERATURE : 52 °F

WEATHER : Sunny

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ 9.5 ft After 24 hours ☒ Caved in at 26.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<u>Topsoil 3 inches</u> ----- 0.3'											
675.0		<b>Silt A-6</b> , Brown, moist, medium stiff, with cinders (FILL), (Lab No. 3)	SS1	4-4-5	67	15.4		3.0					
		----- 3.6'	SS2	50/0.2	83								
		<b>Limestone</b> Gray, weathered ----- 4.2'	RC1		40								4.2, Auger refusal at 4.2 ft
	5	<b>Limestone</b> Gray and buff, fractured ----- 6.7'	RQD= 0%										
670.0		<b>Limestone</b> Gray ----- 9.5'	RC2		96				661				
		----- 10.9'	RQD= 60%										
	10	<b>Limestone</b> Gray, argillaceous ----- 10.9'							444				
665.0			RC3		98				587				
			RQD= 98%						741				
	15								598				
660.0			RC4		100				740				
			RQD= 84%										
	20	<b>Limestone</b> Gray							684				
655.0			RC5		98								
			RQD= 98%										
	25												
650.0			RC6		86								
			RQD= 70%										
	30												30.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
		Bottom of Boring at 30.7 ft											
645.0													
	35												35.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
640.0													
	40												

ATC BORING LOG\_INDOT\_LAT LONG GC01077.GPJ INDOT TEMPLATE.GDT 3/3/21



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: TB-5

SHEET 1 OF 1

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-11-20

ELEVATION : 687.0

STATION : 282+03

OFFSET : 25.0 ft Right

LINE : 'PR-A'

DEPTH : 12.3 ft

BORING METHOD : Hollow Stem Augers

RIG TYPE : D50 ATV (SN441)

CASING DIA. : --

CORE SIZE : 2.0

HAMMER : Auto

DRILLER/INSP : J. Mitchner/T. Struewing

TEMPERATURE : 70 °F

WEATHER : Sunny

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ 4.9 ft After 24 hours ☒ Caved in at 7.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
685.0	0.1	Topsoil 1 inch											
	2.1	Silty Loam A-6, Brown, moist, stiff, (Lab No. 1)	SS1	4-6-8	100	28.4		1.75					
	2.3	Limestone Gray, weathered, fractured	RC1		57								2.3, Auger refusal at 2.3 ft
	4.6	Limestone Gray, fractured	RQD=0%										
680.0			RC2		100								
		Limestone Gray	RQD=60%										
			RC3		100								
			RQD=100%										
675.0	12.3	Bottom of Boring at 12.3 ft											
													15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
													20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: S-1

SHEET 1 OF 1

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-19-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-20-20

ELEVATION : 676.5

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 276+61

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 2.0 ft Right

CASING DIA. : --

TEMPERATURE : 62 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 6.3 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 3.7 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
675.0		Topsoil 10 inches 0.8											
		Silt A-6, Brown, moist, medium stiff, (Lab No. 8)	SS1	2-3-4	83								
		3.0											
	5	Silty Clay A-7-6, Brown, moist, medium stiff, (Lab No. 4)	SS2	2-3-3	72	28.7		1.0					
670.0		Limestone Gray, fractured 6.2 6.3	SS3	50/0.3	83								6.3, Auger refusal at 6.3 ft
		Bottom of Boring at 6.3 ft											
	10												10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
665.0													
	15												15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
660.0													
	20												
655.0													
	25												
650.0													
	30												
645.0													
	35												
640.0													
	40												



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: S-1-A

SHEET 1 OF 1

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-20-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-21-20

ELEVATION : 676.5

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 276+77

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 75.0 ft Left

CASING DIA. : --

TEMPERATURE : 61 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Cloudy

DEPTH : 8.0 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ 4.5 ft After 24 hours ☒ Caved in at 6.2 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
675.0		Topsoil 6 inches				28.6							0.0, Topsoil sample collected
675.0		Silty Loam A-6, Brown, moist, medium stiff, (Lab No. 1)	SS1	3-4-5	72	22.5							
670.0	5	Silty Clay A-7-6, Brown, moist, medium stiff, (Lab No. 4)	SS2	2-3-5	56	17.3		1.0					
670.0			SS3	3-2-5	78	29.9		1.0					
	8.0	Bottom of Boring at 8.0 ft											8.0, Auger refusal at 8.0 ft
	10												10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
665.0													
	15												15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
660.0													
	20												
655.0													
	25												
650.0													
	30												
645.0													
	35												
640.0													
	40												





# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: S-3

SHEET 1 OF 1

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-21-20

ELEVATION : 675.0

STATION : 279+27

OFFSET : 57.0 ft Left

LINE : 'PR-A'

DEPTH : 5.5 ft

BORING METHOD : Hollow Stem Augers

RIG TYPE : D50 ATV (SN441)

CASING DIA. : --

CORE SIZE : --

HAMMER : Auto

DRILLER/INSP : J. Mitchner/T. Struewing

TEMPERATURE : 62 °F

WEATHER : Cloudy

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ 3.5 ft After 24 hours ☒ Caved in at 3.7 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil 7 inches											
			SS1	4-3-5	72	23.2							
		Silt A-6, Dark brown, moist, medium stiff to very stiff, (Lab No. 8)											
			SS2	4-7-8	67								
		Silty Clay A-7-6, Brown, moist, stiff, with limestone fragments, (Lab No. 4)											
		Bottom of Boring at 5.5 ft											
670.0	5												5.5, Auger refusal at 5.5 ft
665.0	10												10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
660.0	15												15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
655.0	20												
650.0	25												
645.0	30												
640.0	35												
635.0	40												



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: S-4

SHEET 1 OF 1

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-11-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-12-20

ELEVATION : 678.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 280+84

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 46.0 ft Right

CASING DIA. : --

TEMPERATURE : 52 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 2.3 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 1.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
678.0	0.0	Topsoil 4 inches											
677.5	0.3	Silt A-6, Dark brown, moist, medium stiff, (Lab No. 3)											
675.0	1.5	Limestone Gray, weathered, fractured	SS1	5-19-50/0.3	77	29.8		1.5					2.3, Auger refusal at 2.3 ft
670.0	2.3	Bottom of Boring at 2.3 ft											5.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
665.0													10.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
660.0													
655.0													
650.0													
645.0													
640.0													
40													





## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 2001721

STRUCTURE #. Monroe Co. Bridge No. 315

BORING NO.: S-5

SHEET 1 OF 1

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-10-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-11-20

ELEVATION : 689.5

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 281+76

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 63.0 ft Left

CASING DIA. : --

TEMPERATURE : 70 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 8.6 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 6.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		Topsoil 3 inches											
		Silt A-6 (14), Brown, moist, soft, (Lab No. 3)	SS1	1-1-3	100	20.7				35	21	14	
685.0	5	Clay A-7-6, Red, moist, very stiff to hard, (Lab No. 5)	SS2	8-10-12	89	19.7		4.5+					
			SS3	6-19-28	67	29.9		4.5+					
680.0	10	Bottom of Boring at 8.6 ft	SS4	50/0.1	0								8.6, Auger refusal at 8.6 ft 10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines 15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
675.0	15												
670.0	20												
665.0	25												
660.0	30												
655.0	35												
650.0	40												



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-01**SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New RoadwayLOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-24-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-25-20ELEVATION : 759.0STATION : 251+95OFFSET : 38.0 ft LeftLINE : 'PR-A'DEPTH : 28.6 ftBORING METHOD : Hollow Stem AugersRIG TYPE : D50 ATV (SN441)CASING DIA. : --CORE SIZE : --HAMMER : AutoDRILLER/INSP : J. Mitchner/T. StruewingTEMPERATURE : 50 °FWEATHER : SunnyGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 25.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<b>Topsoil 3 inches</b> ----- 0.3'											0.0. Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
		<b>Silt A-6</b> , Brown and reddish brown, slightly moist, very stiff to medium stiff, (FILL), (Lab No. 3)	SS1	8-12-15	100								
755.0	5	----- 4.5'	SS2	2-5-20	44								
			SS3	5-11-14	89								
750.0	10		SS4	8-18-12	28								
		<b>Silty Clay A-7-6</b> , Reddish brown, brown, and gray, slightly moist to moist, very stiff to stiff, with limestone fragments (FILL), (Lab No. 4)	SS5	12-14-20	61								
745.0	15		SS6	16-9-6	50								
			SS7	9-12-15	100								
740.0	20		SS8	15-17-15	83								
		----- 21.0'	SS9	10-12-15	100								
735.0	25	<b>Clay A-7-6</b> , Red, moist, very stiff, (Lab No. 2)	SS10	7-8-8	11								
			SS11	9-11-11	0								
730.0	30	----- 28.6'	SS12	50/0.1	83								28.6, Auger refusal at 28.6 ft
		Bottom of Boring at 28.6 ft											
725.0	35												35.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
720.0	40												



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-02**

SHEET **1** OF **1**

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-24-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-25-20

ELEVATION : 757.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 254+64

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 43.0 ft Right

CASING DIA. : --

TEMPERATURE : 48 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 3.1 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 3.1 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
755.0	0.3	Topsoil 3 inches											
	2.3	Silty Clay A-7-6, Brown, moist to slightly moist, medium stiff, (Lab No. 4)	SS1	3-3-50/0.3	83								
	3.1	Limestone Gray, weathered	SS2	30-50/0.1	97								
		Bottom of Boring at 3.1 ft											3.1, Auger refusal at 3.1 ft
													5.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
													10.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-02A**SHEET **1** OF **1**

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-24-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-25-20ELEVATION : 744.0BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 256+76RIG TYPE : D50 ATV (SN441)DRILLER/INSP : J. Mitchner/T. StruewingOFFSET : 35.0 ft LeftCASING DIA. : --TEMPERATURE : 46 °FLINE : 'PR-A'CORE SIZE : --WEATHER : SunnyDEPTH : 8.0 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 5.9 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<u>Topsoil 5 inches</u> ----- 0.4											
		<b>Silty Loam A-6</b> , Brown, moist, medium stiff, (Lab No. 1)	SS1	2-3-4	78	25.4		1.25					
740.0	5	----- 3.5	SS2	3-7-17	83	26.7		2.75					
		<b>Clay A-7-6</b> , Red, moist, very stiff, with limestone fragments, (Lab No. 2)	SS3	15-28-50/0.3	96								
		----- 8.0											
735.0	10	Bottom of Boring at 8.0 ft											8.0, Auger refusal at 8.0 ft
													10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
730.0	15												15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
725.0	20												
720.0	25												
715.0	30												
710.0	35												
705.0	40												

ATC BORING LOG\_INDOT\_LAT LONG GC01077.GPJ INDOT TEMPLATE.GDT 3/3/21



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-04**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-24-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-25-20

ELEVATION : 720.5

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 260+63

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 45.0 ft Left

CASING DIA. : --

TEMPERATURE : 48 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 14.8 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ 8.0 ft After 24 hours ☒ Caved in at 11.4 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
720.0		<b>Topsoil 5 inches</b> 0.4											
		<b>Silty Loam A-6</b> , Brown, moist, medium stiff, (Lab No. 1)	SS1	2-3-3	83	27.4							
		3.0											
		<b>Silt A-6</b> , Brown, slightly moist, very stiff, (Lab No. 3)	SS2	7-8-9	72	13.0		4.0					
715.0	5	5.5											
		<b>Silty Clay A-7-6</b> , Reddish brown, moist, hard, (Lab No. 4)	SS3	15-16-24	83	15.9		4.5+					
		8.0											
710.0	10		SS4	3-3-6	78	41.0		4.0					
		<b>Clay A-7-6</b> , Red, moist, medium stiff to very stiff, (Lab No. 5)	SS5	9-9-9	100	47.2		4.0					
705.0	15	- limestone fragments at 14.7 ft 14.8	SS6	2-3-50/0.3	83								
		Bottom of Boring at 14.8 ft											15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
700.0	20												20.0, Ground surface elevation, station, and offset estimated based upon plan, profile sheets, and cross-sections.
695.0	25												
690.0	30												
685.0	35												
	40												



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-05**SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New RoadwayLOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-30-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-30-20ELEVATION : 706.0STATION : 264+01OFFSET : 48.0 ft RightLINE : 'PR-A'DEPTH : 14.2 ftBORING METHOD : Hollow Stem AugersRIG TYPE : D50 ATV (SN441)CASING DIA. : --CORE SIZE : --HAMMER : AutoDRILLER/INSP : J. Mitchner/T. StruewingTEMPERATURE : 39 °FWEATHER : OvercastGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 7.9 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
705.0		<u>Topsoil 3 inches</u> 0.3'											0.3, Collected Bulk Sample from 0.3 ft to 3.0 ft
		<b>Silt A-6(16)</b> , Brown, moist, stiff, (Lab No. 8)	SS1	6-5-7	100	30.0				38	23	15	
			SS2	4-4-6	11								
700.0	5		SS3	24-17-9	67								
		<b>Clay A-7-6</b> , Red, moist, medium stiff to very stiff, with limestone fragments, (Lab No. 2)	SS4	2-3-5	100								
			SS5	4-6-9	78								
695.0	10		SS6	8-50/0.2	95								15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
		<u>Limestone</u> Gray, weathered 14.0'											
		14.2'											
690.0	15	Bottom of Boring at 14.2 ft											
													20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
	20												
685.0	25												
680.0	30												
675.0	35												
670.0	40												



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-05A**SHEET **1** OF **1**

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 01-12-21COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 01-12-21ELEVATION : 712.4BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 262+33RIG TYPE : D50 ATV (SN441)DRILLER/INSP : M. Ladish/T. StruewingOFFSET : 61.5 ft RightCASING DIA. : --TEMPERATURE : 33 °FLINE : 'PR-A'CORE SIZE : --WEATHER : Clear SunnyDEPTH : 9.7 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ -- After -- hours ☒ Caved in at 7.4 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
710.0		<b>Topsoil</b> 4 inches <b>Silt A-6</b> , Brown, moist, medium stiff, (Lab No. 8)	SS1	2-4-4	100	25.9		1.5					
705.0	5	<b>Clay A-7-6</b> , Reddish brown, moist, stiff, (Lab No. 2)	SS2	2-5-6	100	25.6		2.75					
			SS3	7-7-8	72	37.5		4.25					
	10	<b>Limestone</b> Gray, weathered	SS4	4-43-50/0.2	63								
700.0		Bottom of Boring at 9.7 ft											9.7, Auger refusal at 9.7 ft.
695.0	15												15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
690.0	20												20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
685.0	25												
680.0	30												
675.0	35												
	40												





## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-06**SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-24-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-25-20ELEVATION : 697.5BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 266+20RIG TYPE : D50 ATV (SN441)DRILLER/INSP : J. Mitchner/T. StruewingOFFSET : 27.0 ft LeftCASING DIA. : --TEMPERATURE : 48 °FLINE : 'PR-A'CORE SIZE : --WEATHER : SunnyDEPTH : 8.7 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 8.6 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
695.0	0.3	Topsoil 3 inches	SS1	4-3-3	72	22.4							
	1.9	Silty Loam A-6, Black and brown, moist, medium stiff, with cinders (FILL), (Lab No. 1)	SS2	3-3-4	78	29.1							
	3.0	Silty Clay Loam A-6, Brown, moist, medium stiff, (Lab No. 6)	SS3	4-4-6	100	33.2							
690.0	8.7	Silty Loam A-6, Brown, moist, medium stiff, (Lab No. 1)	SS4	50/0.2	42								
		Bottom of Boring at 8.7 ft											8.7, Auger refusal at 8.7 ft 10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines 15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-06A**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-24-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-24-20

ELEVATION : 699.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 265+02

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 39.0 ft Left

CASING DIA. : --

TEMPERATURE : 48 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 8.2 ft

GROUNDWATER: ☐ Encountered at 6.5 ft ☒ At completion 3.5 ft ☒ None After 24 hours ☒ Caved in at 3.8 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<u>Topsoil 4 inches</u> ----- 0.3'											
695.0		<b>Silty Loam A-6</b> , Brown, very moist, soft to very soft, (Fill), (Lab No. 1)	SS1	3-2-2	50	27.9		1.75					
	5		SS2	2-1-1	56	28.9		0.25					
		----- 5.5'											
		<b>Silty Clay Loam A-6 (19)</b> , Brown, very moist, medium stiff, (Lab No. 6)	SS3	3-3-5	100	30.1				39	19	20	
		----- 8.2'	SS4	50/0.2	83	28.2							
690.0		Bottom of Boring at 8.2 ft											8.2, Auger refusal at 8.2 ft
	10												10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
685.0	15												15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
680.0	20												
675.0	25												
670.0	30												
665.0	35												
660.0	40												





## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-08**SHEET 1 OF 1

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-23-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-24-20ELEVATION : 691.0BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 270+00RIG TYPE : D50 ATV (SN441)DRILLER/INSP : J. Mitchner/T. StruewingOFFSET : 10.0 ft LeftCASING DIA. : --TEMPERATURE : 46 °FLINE : 'PR-A'CORE SIZE : --WEATHER : SunnyDEPTH : 8.9 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 7.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
690.0		<b>Topsoil 4 inches</b>											
		<b>Silty Clay A-7-6</b> , Brown and reddish brown, slightly moist, very stiff, (Lab No. 4)	SS1	5-10-17	78	18.1							1.0, Collected a bulk sample from 1.0 ft. to 6.0 ft.
										33	19	14	
	5	<b>Silty Loam A-6</b> , Dark brown, moist to very moist, very soft to medium stiff, (Lab No. 1)	SS2	1-1-1	61	28.8		0.5					
685.0													
		<b>Silty Clay A-7-6</b> , Brown and reddish brown, moist, medium stiff to very stiff, (Lab No. 4)	SS3	4-5-4	50	25.5		0.5					
			SS4	10-50/0.3	94	45.0		1.5					8.9, Auger refusal at 8.9 ft
	10	Bottom of Boring at 8.9 ft											
680.0													
	15												15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
675.0													
	20												20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
670.0													
	25												
665.0													
	30												
660.0													
	35												
655.0													
	40												



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-09**SHEET **1** OF **1**

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-23-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-24-20ELEVATION : 696.0BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 272+16RIG TYPE : D50 ATV (SN441)DRILLER/INSP : J. Mitchner/T. StruewingOFFSET : 48.0 ft LeftCASING DIA. : --TEMPERATURE : 45 °FLINE : 'PR-A'CORE SIZE : --WEATHER : SunnyDEPTH : 7.6 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 7.9 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
695.0		<u>Topsoil 6 inches</u> ----- 0.5				26.1							0.0, Topsoil sample collected
		<b>Silt A-6</b> , Dark brown, moist, stiff, (Lab No. 8)	SS1	5-6-7	67	19.8		1.0					
		----- 3.0											
5		<b>Clay A-7-6</b> , Red, moist, very stiff, (Lab No. 5)	SS2	3-5-11	83	30.2		3.5					7.6, Auger Refusal at 7.6 ft
690.0		----- 7.6											
			SS3	16-8-50/0.3	83	43.6		1.5					
		Bottom of Boring at 7.6 ft											10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
10													
685.0													
15													15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
680.0													
20													
675.0													
25													
670.0													
30													
665.0													
35													
660.0													
40													



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-10**SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New RoadwayLOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-18-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-19-20ELEVATION : 691.0STATION : 273+05OFFSET : 41.0 ft RightLINE : 'PR-A'DEPTH : 14.6 ftBORING METHOD : Hollow Stem AugersRIG TYPE : D50 ATV (SN441)CASING DIA. : --CORE SIZE : 2.0HAMMER : AutoDRILLER/INSP : J. Mitchner/T. StruewingTEMPERATURE : 50 °FWEATHER : SunnyGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 4.7 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
690.0		<u>Topsoil 8 inches</u> ----- 0.7											
		<b>Clay A-7-6</b> , Red, moist, stiff to very stiff, (Lab No. 5)	SS1	4-5-6	89	23.2		3.25					
	5	----- 4.6	SS2	4-5-19	83	35.3		4.5+					4.6, Auger refusal at 4.6 ft
685.0		<b>Limestone</b> Gray, slightly weathered, with clay seams ----- 6.2	RC1		84								
			RQD= 59%										
	10	<b>Limestone</b> Gray	RC2		96								
			RQD= 96%										
680.0													
	15	----- 14.6											15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
675.0		<b>Bottom of Boring at 14.6 ft</b>											
	20												20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
670.0													
	25												
665.0													
	30												
660.0													
	35												
655.0													
	40												



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-11**

SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-24-20

ELEVATION : 688.0

STATION : 274+42

OFFSET : 68.0 ft Left

LINE : 'PR-A'

DEPTH : 15.2 ft

BORING METHOD : Hollow Stem Augers

RIG TYPE : D50 ATV (SN441)

CASING DIA. : --

CORE SIZE : 2.0

HAMMER : Auto

DRILLER/INSP : J. Mitchner/T. Struewing

TEMPERATURE : 46 °F

WEATHER : Sunny

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ 2.9 ft After 24 hours ☒ Caved in at 3.7 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
685.0	0.3	Topsoil 4 inches											
		Silty Loam A-6, Brown, moist, stiff, (Lab No. 1)	SS1	6-6-6	78	25.9							
	3.0	Clay A-7-6, Red, moist, very stiff, (Lab No. 5)	SS2	21-50/0.2	83	31.2		3.5					
	4.6												4.6, Auger refusal at 4.6 ft
680.0		Limestone Gray, weathered, fossiliferous, vuggy	RC1 RQD= 67%		92								
	12.2	Limestone Gray	RC2 RQD= 88%		100								
	15.2	Bottom of Boring at 15.2 ft	RC3 RQD= 100%		100								15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
670.0													20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
665.0													
660.0													
655.0													
650.0													
	40												

ATC\_BORING LOG\_INDOT\_LAT LONG GC01077.GPJ INDOT TEMPLATE.GDT 3/3/21





# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-13**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-11-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-12-20

ELEVATION : 683.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 281+12

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 135.0 ft Left

CASING DIA. : --

TEMPERATURE : 50 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 2.7 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 2.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<b>Topsoil</b> 3 inches											
		<b>Silt A-6</b> , Dark brown, moist, stiff, (Lab No. 3)											
		<b>Limestone</b> Gray, weathered, fractured											
680.0			SS1	6-5-50/0.2	97								2.7, Auger refusal at 2.7 ft
5		Bottom of Boring at 2.7 ft											5.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
675.0													10.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
10													
670.0													
15													
665.0													
20													
660.0													
25													
655.0													
30													
650.0													
35													
645.0													
40													



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-13A**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-11-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-12-20

ELEVATION : 683.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 280+39

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 128.0 ft Left

CASING DIA. : --

TEMPERATURE : 50 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 2.5 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 2.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
680.0	0.3	Topsoil 3 inches											
	1.5	Silt A-6, Dark brown, moist, medium stiff, (Lab No. 3)											
	2.5	Limestone Gray, weathered, fractured	SS1	5-19-36	100								2.5, Auger refusal at 2.5 ft
		Bottom of Boring at 2.5 ft											5.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
													10.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-14**SHEET 1 OF 1

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-11-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-12-20ELEVATION : 685.0BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 281+76RIG TYPE : D50 ATV (SN441)DRILLER/INSP : J. Mitchner/T. StruewingOFFSET : 147.0 ft RightCASING DIA. : --TEMPERATURE : 50 °FLINE : 'PR-A'CORE SIZE : --WEATHER : SunnyDEPTH : 2.0 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 1.4 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<b>Topsoil</b> 3 inches											
		<b>Silt A-6</b> , Brown, moist, medium stiff, (Lab No. 3)											
		<b>Limestone</b> Gray, weathered, fractured											
			SS1	46-50/0.3	31								
680.0	5	Bottom of Boring at 2.0 ft											2.0, Auger refusal at 2.0 ft
675.0	10												5.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
670.0	15												10.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
665.0	20												
660.0	25												
655.0	30												
650.0	35												
645.0	40												

ATC\_BORING LOG\_INDOT\_LAT LONG GC01077.GPJ INDOT TEMPLATE.GDT 3/3/21



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-16**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-10-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-11-20

ELEVATION : 697.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 283+95

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 180.0 ft Right

CASING DIA. : --

TEMPERATURE : 68 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Cloudy

DEPTH : 3.6 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 3.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
695.0	0.3	Topsoil 3 inches											
	2.0	Silty Loam A-6 (20), Brown, moist, stiff, (Lab No. 1)	SS1	5-5-6	100	27.2		1.75		39	19	20	
	3.6	Silt A-6, Reddish brown, moist, stiff, (Lab No. 3)	SS2	50/0.1	83								
5		Bottom of Boring at 3.6 ft											3.6, Auger refusal at 3.6 ft
690.0													5.0, Encountered auger refusal at 1.0 ft. and offset due to what appeared to be limestone at boring location.
10													10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
685.0													15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
15													
680.0													
20													
675.0													
25													
670.0													
30													
665.0													
35													
660.0													
40													



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-17**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-09-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-10-20

ELEVATION : 705.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 285+00

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 1.0 ft Right

CASING DIA. : --

TEMPERATURE : 68 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Cloudy

DEPTH : 5.6 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 3.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<u>Topsoil 2 inches</u>											
		<u>Silty Loam A-6</u> , Brown, moist, stiff, (Lab No. 1)	SS1	3-5-6	100	22.7		2.5					
		<u>Silty Clay A-7-6</u> , Light reddish brown, slightly moist, very stiff, (Lab No. 4)	SS2	6-10-50/0.3	103	15.7		4.5+					
			SS3	50/0.1	0								
		Bottom of Boring at 5.6 ft											5.6, Auger refusal at 5.6 ft
													10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
													15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-17A**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-12-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-13-20

ELEVATION : 702.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 284+33

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 66.0 ft Left

CASING DIA. : --

TEMPERATURE : 55 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 5.2 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 2.8 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
700.0		<b>Topsoil</b> 3 inches 0.3											
		<b>Silty Loam A-6</b> , Brown, moist, stiff, (Lab No. 1) 2.0	SS1	4-6-7	100	24.5		4.5					
		<b>Clay A-7-6</b> , Red, moist, stiff to very stiff, (Lab No. 2)											
5		<b>Silt A-6</b> , Brown and light brown, moist, very stiff, (Lab No. 3) 4.5	SS2	8-8-50/0.3	83			4.5+					
		<b>Limestone</b> Gray, fractured 5.2											5.2, Auger refusal at 5.2 ft
695.0		Bottom of Boring at 5.2 ft											
10													10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
690.0													
15													15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
685.0													
20													
680.0													
25													
675.0													
30													
670.0													
35													
665.0													
40													







## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-19**SHEET **1** OF **1**

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana

DATE STARTED : 11-11-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-12-20

ELEVATION : 725.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 289+80

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 35.0 ft Left

CASING DIA. : --

TEMPERATURE : 50 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Cloudy

DEPTH : 11.7 ft

GROUNDWATER: ☐ Encountered at None☒ At completion --☒ None After 24 hours☒ Caved in at 6.8 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<b>Topsoil 3 inches</b> 0.3'											
		<b>Silty Loam A-6</b> , Brown, moist, medium stiff, (Lab No. 1)	SS1	3-3-3	100			1.75					
		3.0'											
720.0	5	- weathered limestone fragments from 6.0 ft. to 8.0 ft.	SS2	4-5-6	100	23.7		3.75		82	20	62	
		<b>Clay A-7-6 (68)</b> , Red, moist, stiff to very stiff, (Lab No. 2)	SS3	9-15-13	100	26.9		2.0					
715.0	10		SS4	4-5-6	100	49.1 52.1		2.25					
		11.7'	SS5	6-50/0.2	71								11.7, Auger refusal at 11.7 ft
		Bottom of Boring at 11.7 ft											15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
710.0	15												20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
705.0	20												
700.0	25												
695.0	30												
690.0	35												
685.0	40												



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-20**SHEET **1** OF **1**

LATITUDE : \_\_\_\_\_

PROJECT TYPE: New Roadway

LONGITUDE : \_\_\_\_\_

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-11-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-12-20ELEVATION : 734.0BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 293+00RIG TYPE : D50 ATV (SN441)DRILLER/INSP : J. Mitchner/T. StruewingOFFSET : 9.0 ft LeftCASING DIA. : --TEMPERATURE : 52 °FLINE : 'PR-A'CORE SIZE : --WEATHER : SunnyDEPTH : 10.2 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 5.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<b>Topsoil 9 inches</b> ----- 0.8											
		<b>Silty Clay A-7-6 (26)</b> , Reddish tan, moist, medium stiff, (Lab No. 4)	SS1	3-3-6	56	25.3				44	18	26	
730.0	5	- limestone fragments between 5.0 ft. and 8.5 ft.	SS2	3-4-5	100	32.9		3.25		96	21	75	
		<b>Clay A-7-6 (84)</b> , Red, moist, medium stiff to very stiff, (Lab No. 5)	SS3	36-16-9	56								
725.0	10		SS4	3-3-4	100	53.8		1.5					
		<b>Limestone</b> Gray, weathered, fractured ----- 10.0	SS5	50/0.2	83								10.2, Auger refusal at 10.2 ft
		Bottom of Boring at 10.2 ft											
720.0	15												15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
715.0	20												20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
710.0	25												
705.0	30												
700.0	35												
695.0	40												



## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-21**SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New RoadwayLOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-11-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-12-20ELEVATION : 749.0STATION : 295+55OFFSET : 15.0 ft LeftLINE : 'PR-A'DEPTH : 8.6 ftBORING METHOD : Hollow Stem AugersRIG TYPE : D50 ATV (SN441)CASING DIA. : --CORE SIZE : --HAMMER : AutoDRILLER/INSP : J. Mitchner/T. StruewingTEMPERATURE : 50 °FWEATHER : OvercastGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 2.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<u>Topsoil 3 inches</u> ----- 0.3'											
745.0	5	<b>Silty Clay A-7-6</b> , Reddish brown, moist, very stiff, (Lab No. 4) - limestone fragments between 3.5 ft. and 5.0 ft. ----- 5.0'	SS1 SS2	7-9-11 28-7-9	100 56	20.4		4.5					
740.0	10	<b>Clay A-7-6</b> , Brown, moist, very stiff, (Lab No. 5) ----- 8.5'	SS3	6-8-9	56	36.2		2.0					
		<b>Limestone</b> Gray, weathered, fractured ----- 8.6'	SS4	50/0.1	83								8.6, Auger refusal at 8.6 ft
		Bottom of Boring at 8.6 ft											10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
735.0	15												15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
730.0	20												
725.0	25												
720.0	30												
715.0	35												
710.0	40												



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-22**

SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New Roadway

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 01-12-21

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 01-12-21

ELEVATION : 754.3

STATION : 300+75

OFFSET : 21.1 ft Left

LINE : 'PR-A'

DEPTH : 11.6 ft

BORING METHOD : Hollow Stem Augers

RIG TYPE : D50 ATV (SN441)

CASING DIA. : --

CORE SIZE : --

HAMMER : Auto

DRILLER/INSP : M. Ladish/T. Struewing

TEMPERATURE : 36 °F

WEATHER : Sunny

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ -- After -- hours ☒ Caved in at 9.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<u>Topsoil 5 inches</u> ----- 0.4											
			SS1			39.1							
750.0	5	<b>Silty Clay A-7-6</b> , Light reddish brown, moist, medium stiff, (Lab No. 4)	SS2	2-4-6	78	32.9		2.5					3.5, This boring was hand augered to 3.5 ft.
			SS3	4-4-6	67	28.2		2.75					
745.0	10	<b>Clay A-7-6</b> , Red, moist, medium stiff, (Lab No. 2)	SS4	3-3-4	100	51.4							
			SS5	2-50/0.1	69								11.6, Auger refusal at 11.6 ft.
		<u>Limestone Gray</u> ----- 11.5 ----- 11.6											
740.0	15	Bottom of Boring at 11.6 ft											
	20												15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
735.0	25												
730.0	30												20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
725.0	35												
720.0	40												
715.0													





# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-24**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 01-12-21

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 01-12-21

ELEVATION : 749.2

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 306+14

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : M. Ladish/T. Struewing

OFFSET : 38.6 ft Right

CASING DIA. : --

TEMPERATURE : 34 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 8.6 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ -- After -- hours ☒ Caved in at 7.8 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
745.0	5	Asphalt 8 inches Crushed Stone 4 inches	SS1	4-4-6	67	22.6							0.0, Pavement restoration required
		Silty Loam A-6, Brown, moist, medium stiff, (Lab No. 1)											
		Silty Clay A-7-6, Reddish brown, moist, medium stiff, (Lab No. 4)											
		Clay A-7-6, Red, moist, medium stiff, (Lab No. 5)											
740.0	10	Limestone Gray, weathered	SS4	50/0.1	83			2.25					8.6, Auger refusal at 8.6 ft.
		Bottom of Boring at 8.6 ft											
735.0	15												15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
730.0	20												20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
725.0	25												
720.0	30												
715.0	35												
710.0	40												





# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-25A**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-18-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-19-20

ELEVATION : 740.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 309+50

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 32.0 ft Left

CASING DIA. : --

TEMPERATURE : 50 °F

LINE : 'PR-A'

CORE SIZE : --

WEATHER : Sunny

DEPTH : 6.8 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 3.6 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<u>Topsoil 3 inches</u> ----- 0.3'											
			SS1	4-3-5	61	36.9		2.25					
735.0	5	<b>Clay A-7-6</b> , Red, moist, medium stiff, (Lab No. 2)	SS2	3-4-6	100	40.7		3.25					
		6.8	SS3	6-50/0.3	100	56.3		1.75					6.8, Auger refusal at 6.8 ft
		Bottom of Boring at 6.8 ft											10.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
730.0	10												15.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
725.0	15												
720.0	20												
715.0	25												
710.0	30												
705.0	35												
700.0	40												





## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-26**SHEET **1** OF **1**

LATITUDE :

LONGITUDE :

PROJECT TYPE: New RoadwayLOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, IndianaCOUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-18-20ELEVATION : 722.0STATION : 311+43OFFSET : 47.0 ft LeftLINE : 'PR-A'DEPTH : 15.0 ftBORING METHOD : Hollow Stem AugersRIG TYPE : D50 ATV (SN441)CASING DIA. : --CORE SIZE : --HAMMER : AutoDRILLER/INSP : J. Mitchner/T. StruewingTEMPERATURE : 44 °FWEATHER : SunnyGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 7.2 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
720.0		<b>Topsoil</b> 7 inches <b>Silty Loam A-6</b> , Brown, moist, medium stiff, (Lab No. 1)	SS1	3-4-4	78	23.0							
5		<b>Clay A-7-6</b> , Red, moist, stiff to very stiff, with limestone fragments, (Lab No. 2)	SS2	4-4-7	83	28.7		1.75					
715.0			SS3	8-8-8	94	50.3		3.5					
10			SS4	3-3-4	100	50.2		2.75					
710.0		<b>Clay A-7-6</b> , Red, moist, medium stiff to stiff, with limestone fragments, (Lab No. 5)	SS5	6-6-6	100	45.4		2.25					
15		<b>Silt A-6</b> , Brown, very moist, soft, with limestone fragments, (Lab No. 3)	SS6	1-0-7	17			2.25					
705.0		Bottom of Boring at 15.0 ft											15.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
20													20.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
700.0													
25													
695.0													
30													
690.0													
35													
685.0													
40													





# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE # : --

BORING NO.: **RB-28**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 12-01-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 12-01-20

ELEVATION : 751.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 70+30

RIG TYPE : B-57 Truck

DRILLER/INSP : C. Carroll/T. Struewing

OFFSET : 10.0 ft Right

CASING DIA. : --

TEMPERATURE : 39 °F

LINE : 'PR-S-2'

CORE SIZE : --

WEATHER : Overcast

DEPTH : 2.7 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ -- After -- hours ☒ Caved in at 2.2 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
750.0	0	<b>Asphalt</b> 3 inches <b>Concrete</b> 6 inches <b>Crushed Stone</b> 4 inches <b>Limestone</b> Gray, slightly moist, fragments	SS1	15-50/0.2	95								0.0, Pavement restoration required
	5	Bottom of Boring at 2.7 ft											2.7, Auger refusal at 2.7 ft
745.0													5.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
740.0	10												10.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
735.0	15												
730.0	20												
725.0	25												
720.0	30												
715.0	35												
	40												



# BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-29**

SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-30-20

COUNTY : Monroe

ATC PROJECT NO.: 170GC01077

DATE COMPLETED : 11-30-20

ELEVATION : 741.0

BORING METHOD : Hollow Stem Augers

HAMMER : Auto

STATION : 73+54

RIG TYPE : D50 ATV (SN441)

DRILLER/INSP : J. Mitchner/T. Struewing

OFFSET : 11.0 ft Left

CASING DIA. : --

TEMPERATURE : 40 °F




LINE : 'PR-S-2'

CORE SIZE : --

WEATHER : Overcast

DEPTH : 3.5 ft

GROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ -- After -- hours ☒ Caved in at 3.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
740.0		<b>Asphalt 6 inches</b> 											0.0, Pavement restoration required
		<b>Crushed Stone 6 inches</b> 											
		<b>Clay A-7-6</b> , Red, moist, medium stiff, (Lab No. 2) 	SS1	8-3-3	67								
													3.5, Auger refusal at 3.5 ft
			SS2	50/0.3	100								
		Bottom of Boring at 3.5 ft											
735.0	5												5.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines
730.0	10												10.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
725.0	15												
720.0	20												
715.0	25												
710.0	30												
705.0	35												
	40												





## BORING LOG

GEOTECHNICAL CONSULTANT : ATC Group Services LLC

DES NO. : 1802977

STRUCTURE #. --

BORING NO.: **RB-31**SHEET **1** OF **1**

LATITUDE :

PROJECT TYPE: New Roadway

LONGITUDE :

LOCATION : Fullerton Pike Extension - Phase III; Rockport Road to Rogers Street, Bloomington, Indiana DATE STARTED : 11-18-20COUNTY : MonroeATC PROJECT NO.: 170GC01077DATE COMPLETED : 11-19-20ELEVATION : 745.0BORING METHOD : Hollow Stem AugersHAMMER : AutoSTATION : 201+75RIG TYPE : B-57 TruckDRILLER/INSP : J. Mitchner/T. StruewingOFFSET : 6.0 ft RightCASING DIA. : --TEMPERATURE : 51 °FLINE : 'PR-S-1'CORE SIZE : --WEATHER : SunnyDEPTH : 20.0 ftGROUNDWATER: ☐ Encountered at None ☒ At completion -- ☒ None After 24 hours ☒ Caved in at 3.4 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY, pcf	POCKET PEN., tsf	UNCONF. COMP., tsf	ATTERBERG LIMITS			REMARKS
										LL	PL	PI	
		<b>Asphalt 4 inches</b> ----- 0.3'											0.0, Pavement restoration required
740.0	5		SS1	4-6-9	72	25.5		4.5					
			SS2	6-7-10	100	34.0		4.25					
			SS3	10-11-13	100	31.1		4.5+					
735.0	10	<b>Clay A-7-6</b> , Red, moist, medium stiff to very stiff, (Lab No. 2)	SS4	5-4-7	94	27.3		2.75					
			SS5	5-5-7	100	29.6		2.5					
730.0	15		SS6	3-3-4	100	35.3		2.25					
			SS7	5-5-6	100	38.8		2.0					
725.0	20	- limestone fragments below 19.0 ft	SS8	5-11-8	78								
		Bottom of Boring at 20.0 ft											20.0, Boring backfilled in accordance with INDOT Aquifer Protection Guidelines.
720.0	25												25.0, Ground surface elevation, station, and offset estimated based upon plan and profile sheets and cross-sections.
715.0	30												
710.0	35												
705.0	40												





**Figure 1:** TB-1 Rock Core, 6.7 feet to 16.7 feet.





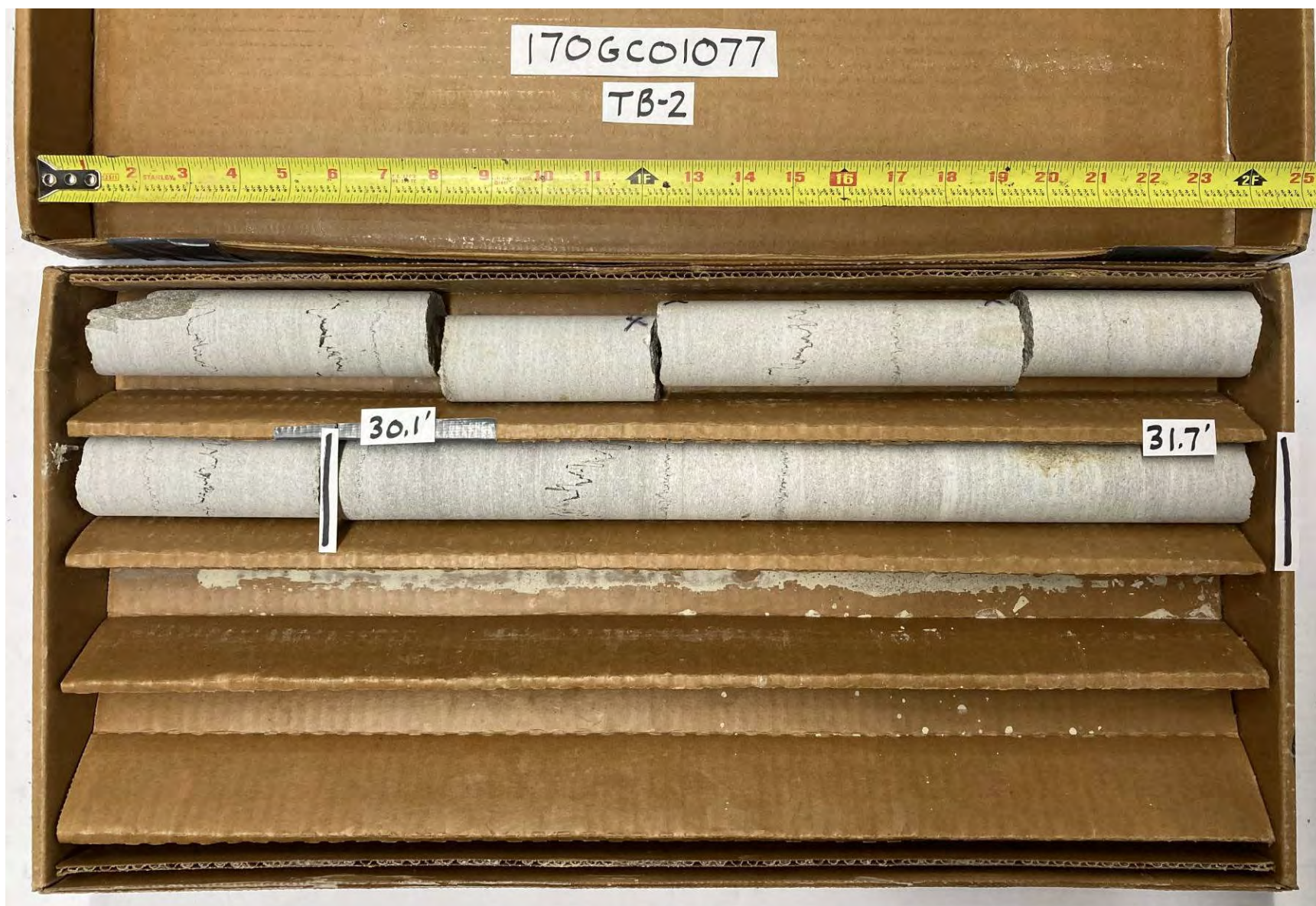
**Figure 2:** TB-2 Rock Core, 5.5 feet to 16 feet (approx.).





**Figure 3:** TB-2 Rock Core, 16 feet (approx.) to 28 feet (approx.).





**Figure 4:** TB-2 Rock Core, 28 feet (approx.) to 31.7 feet.





Figure 5: TB-3 Rock Core, 4.0 feet to 14 feet (approx.).





Figure 6: TB-3 Rock Core, 14 feet (approx.) to 24 feet (approx.).





Figure 7: TB-3 Rock Core, 24 feet (approx.) to 30.0 feet.





**Figure 8:** TB-4 Rock Core, 4.2 feet to 15 feet (approx.).





Figure 9: TB-4 Rock Core, 15 feet (approx.) to 25 feet (approx.).





**Figure 10:** TB-4 Rock Core, 25 feet (approx.) to 30.7 feet.





Figure 11: TB-5 Rock Core, 2.3 feet to 12.3 feet.

## **APPENDIX C**

SUMMARY OF CLASSIFICATION TEST RESULTS

GRAIN SIZE DISTRIBUTION TEST REPORTS

ATTERBERG LIMITS TEST RESULTS

SUMMARY OF SPECIAL LAB TESTS

MOISTURE DENSITY RELATIONSHIP REPORTS

RESILIENT MODULUS TEST RESULTS

SUMMARY OF EXISTING TOPSOIL TEST RESULTS FOR USE WITH PLANT GROWTH LAYER

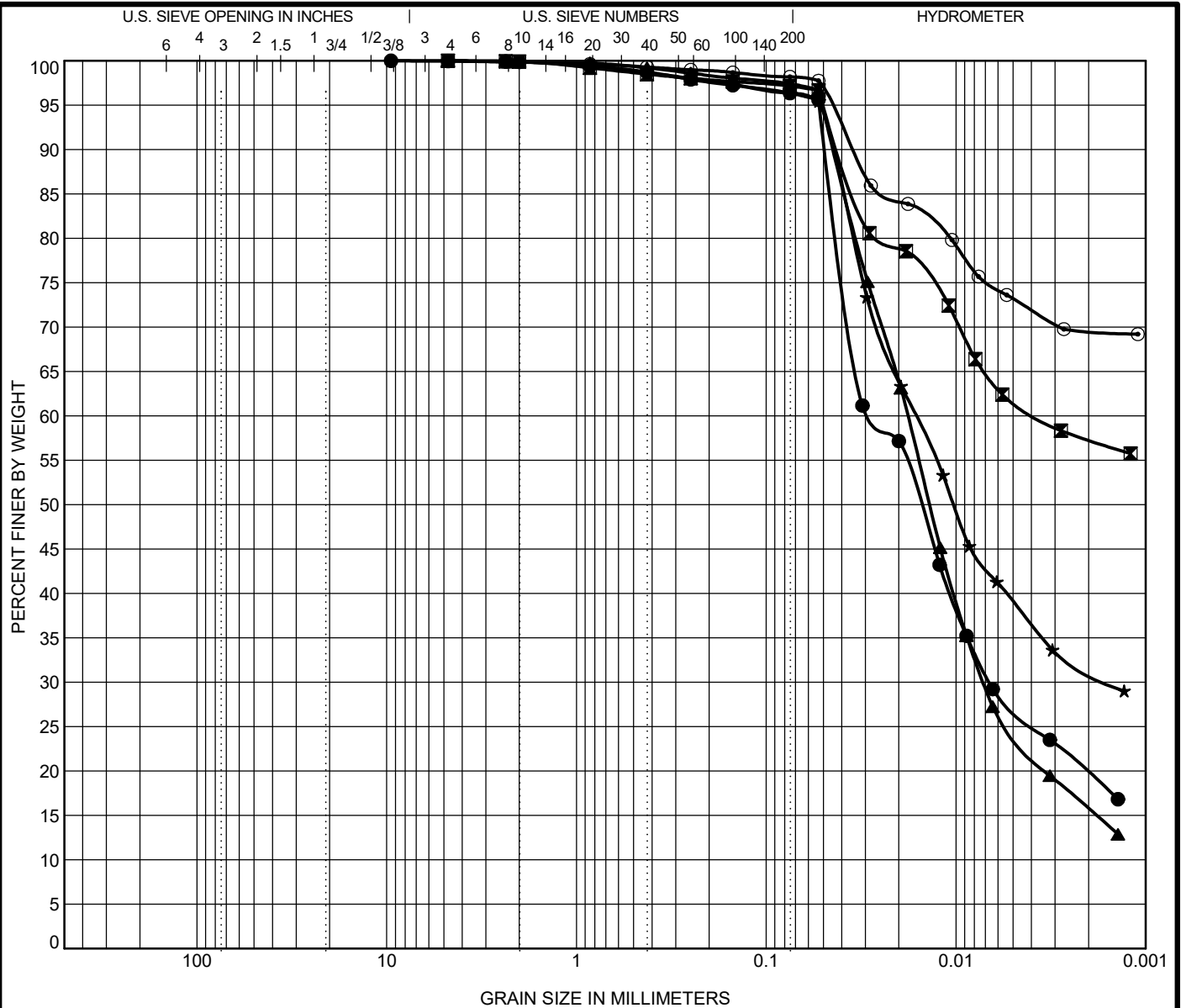
Boring	Sample	Depth	Lab #	Soil Classification	Gravel %	Sand %	Silt %	Clay %	% Fines (Passing No. 200)	LL	PL	PI	Moisture %	LOI %	Ca/Mg %	Soluble Sulfate (ppm)	pH
RB-07	Topsoil	0		SILTY LOAM	6.7	16.7	62.7	13.9	76.6				25.4	3.6	20		7.3
RB-09	Topsoil	0		SILTY LOAM	0.3	4.5	76.7	18.5	95.2				26.1	3.9	4		6.8
S-1-A	Topsoil	0		SILT	0.2	4.8	84.5	10.5	95.0				28.6	3.8	2		6.4
TB-2	Topsoil	0		SILTY LOAM With Organic Matter	13.2	11.2	64.6	10.9	75.5				27.1	4.7	4		7.7
RB-16	SS1	1	1	A-6 (20) SILTY LOAM	0.1	3.5	76.7	19.7	96.4	39	19	20	27.2			< 100	6.9
RB-19	SS2	4	2	A-7-6 (68) CLAY	0.1	2.8	39.8	57.3	97.2	82	20	62	23.7			340	6.8
S-5	SS1	1	3	A-6 (14) SILT	0.0	2.5	81.7	15.7	97.4	35	21	14	20.7			260	5.0
RB-20	SS1	1	4	A-7-6 (26) SILTY CLAY	0.2	3.4	65.1	31.3	96.4	44	18	26	25.3			240	6.2
RB-20	SS2	4	5	A-7-6 (84) CLAY	0.1	1.7	28.6	69.6	98.2	96	21	75	32.9			< 100	7.8
RB-06A	SS3T	6	6	A-6 (19) SILTY CLAY LOAM	0.8	5.7	70.9	22.6	93.5	39	19	20	30.1			< 100	7.8
RB-08	Bulk	1	7	A-6 (12) SILTY LOAM	1.1	6.5	75.1	17.3	92.4	33	19	14				< 100	7.7
RB-05	Bulk	1	8	A-6 (16) SILT	0.1	3.3	87.3	9.4	96.6	38	23	15	30.0			< 100	5.9

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**Summary of Classification Tests**

DES # : 1802977 County : Monroe  
Route # : Fullerton Pike Extension - Phase III Project # : 170GC01077  
Project Type : New Roadway  
Location : Rockport Road to Rogers Street, Bloomington, Indiana



COBBLES	GRAVEL	SAND		SILT	Clay
		coarse	fine		

Specimen Identification				Lab #	Textural Classification						LL	PL	PI	Cc	Cu
●	RB-16	SS1	1.0	1	A-6 (20) SILTY LOAM						39	19	20		
☒	RB-19	SS2	4.0	2	A-7-6 (68) CLAY						82	20	62		
▲	S-5	SS1	1.0	3	A-6 (14) SILT						35	21	14		
★	RB-20	SS1	1.0	4	A-7-6 (26) SILTY CLAY						44	18	26		
◎	RB-20	SS2	4.0	5	A-7-6 (84) CLAY						96	21	75		
Specimen Identification				D60	D30	D10	LOI	Ca/Mg	%Gravel	%Sand	%Silt	%Clay	%Colloid		
●	RB-16	SS1	1.0	0.027	0.007				0.1	3.5	76.7	19.7			
☒	RB-19	SS2	4.0	0.004					0.1	2.8	39.8	57.3			
▲	S-5	SS1	1.0	0.018	0.007				0.0	2.5	81.7	15.7			
★	RB-20	SS1	1.0	0.016	0.002				0.2	3.4	65.1	31.3			
◎	RB-20	SS2	4.0						0.1	1.7	28.6	69.6			



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## GRAIN SIZE DISTRIBUTION TEST REPORT

DES #: 1802977

Structure #: --

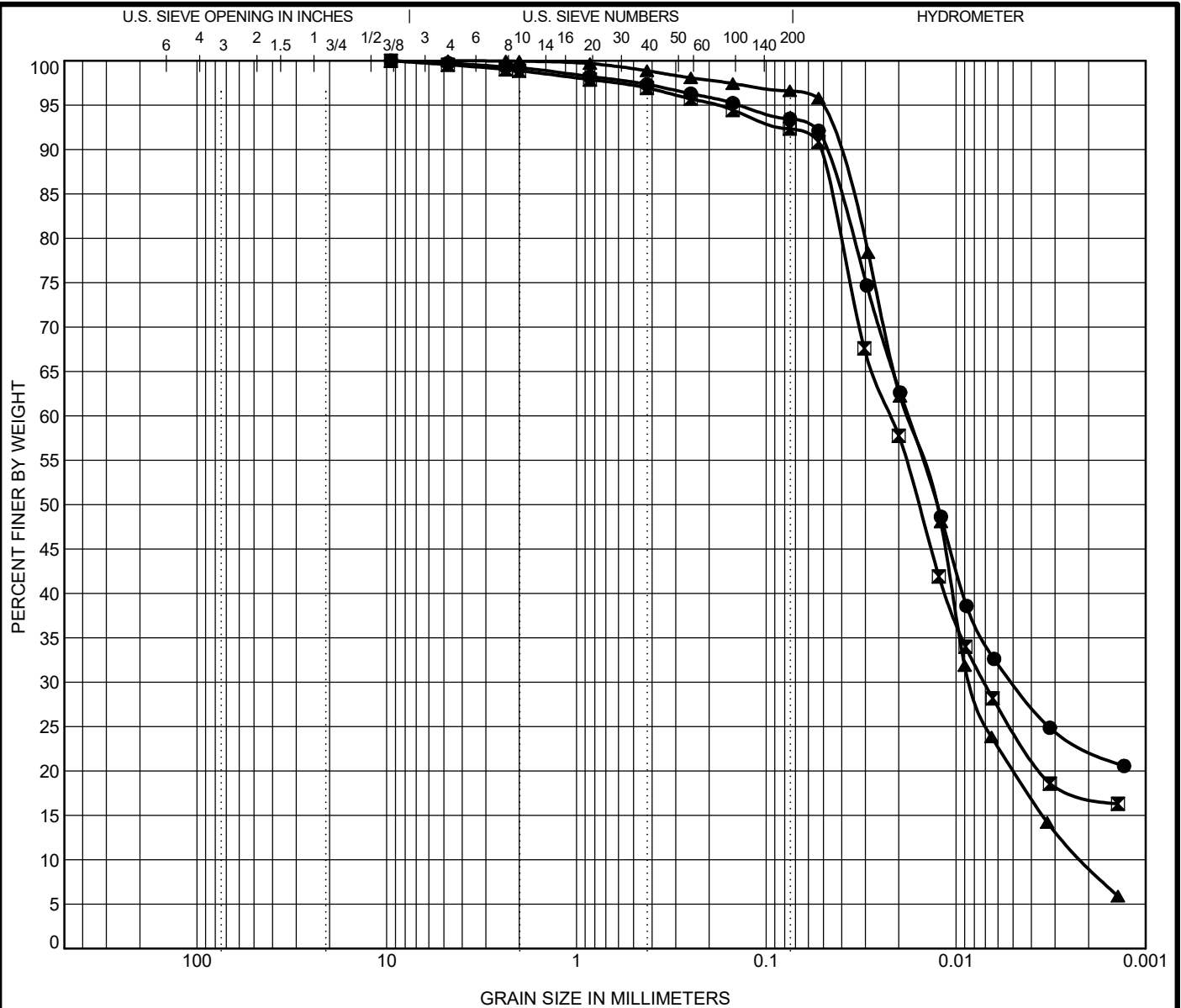
Project #: 170GC01077

County: Monroe

Route: Fullerton Pike Extension - Phase III

Location: Rockport Road to Rogers Street, Bloomington, Indiana





COBBLES	GRAVEL	SAND		SILT	Clay
		coarse	fine		

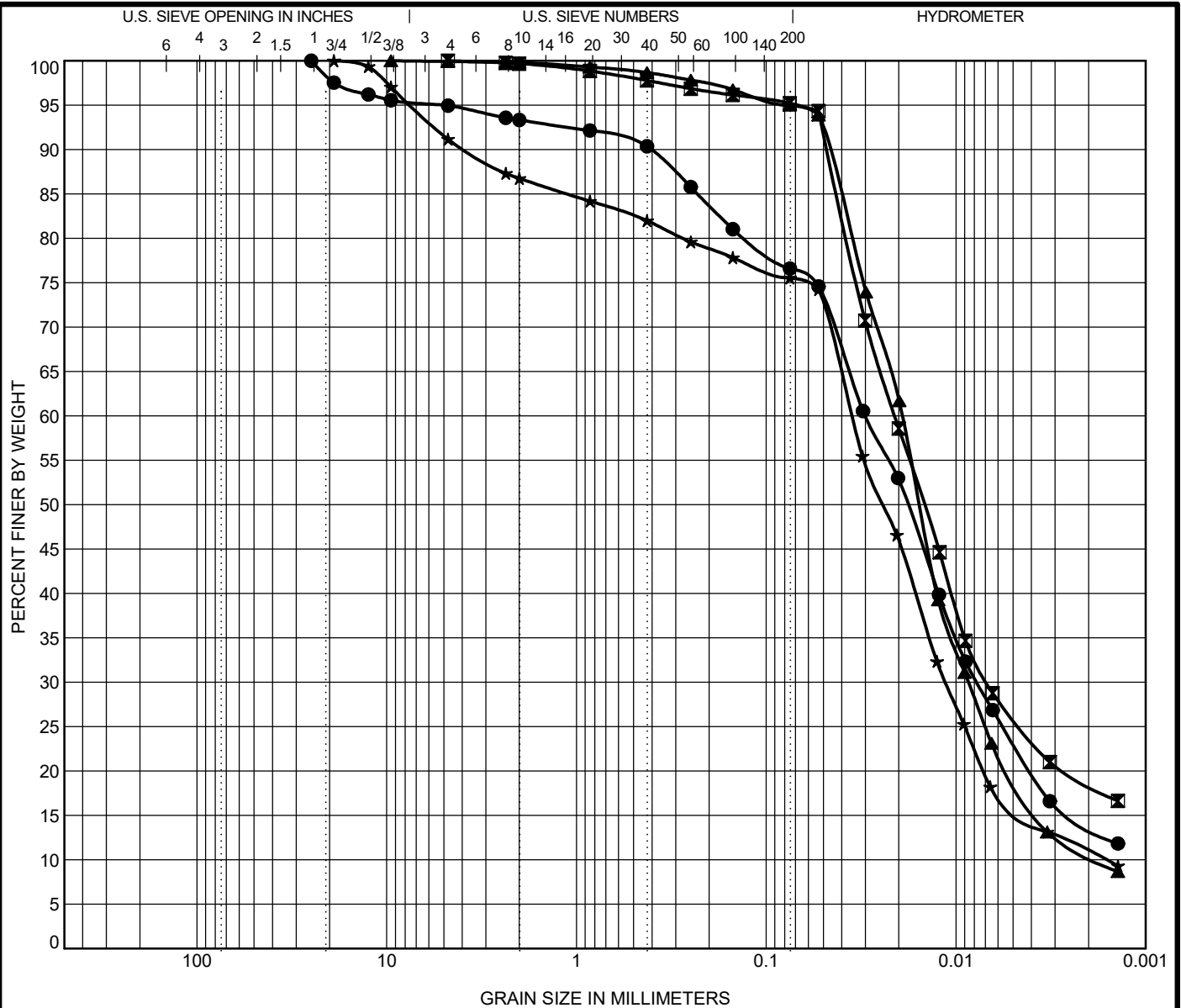
Specimen Identification				Lab #	Textural Classification				LL	PL	PI	Cc	Cu
●	RB-06A	SS3T	6.0	6	A-6 (19) SILTY CLAY LOAM				39	19	20		
☒	RB-08	Bulk	1.0	7	A-6 (12) SILTY LOAM				33	19	14		
▲	RB-05	Bulk	1.0	8	A-6 (16) SILT				38	23	15	1.79	8.54
Specimen Identification				D60	D30	D10	LOI	Ca/Mg	%Gravel	%Sand	%Silt	%Clay	%Colloid
●	RB-06A	SS3T	6.0	0.018	0.005				0.8	5.7	70.9	22.6	
☒	RB-08	Bulk	1.0	0.022	0.007				1.1	6.5	75.1	17.3	
▲	RB-05	Bulk	1.0	0.018	0.008	0.002			0.1	3.3	87.3	9.4	



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## GRAIN SIZE DISTRIBUTION TEST REPORT

DES #: 1802977 Structure #: --  
Project #: 170GC01077  
County: Monroe Route: Fullerton Pike Extension - Phase III  
Location: Rockport Road to Rogers Street, Bloomington, Indiana



COBBLES	GRAVEL	SAND		SILT	Clay
		coarse	fine		

Specimen Identification				Lab #	Textural Classification						LL	PL	PI	Cc	Cu
●	RB-07	Topsoil	0.0		SILTY LOAM										
☒	RB-09	Topsoil	0.0		SILTY LOAM										
▲	S-1-A	Topsoil	0.0		SILT									2.13	10.60
★	TB-2	Topsoil	0.0		SILTY LOAM With Organic Matter									2.22	21.68
Specimen Identification				D60	D30	D10	LOI	Ca/Mg	%Gravel	%Sand	%Silt	%Clay	%Colloid		
●	RB-07	Topsoil	0.0	0.03	0.008		4	20	6.7	16.7	62.7	13.9			
☒	RB-09	Topsoil	0.0	0.021	0.007		4	4	0.3	4.5	76.7	18.5			
▲	S-1-A	Topsoil	0.0	0.019	0.009	0.002	4	2	0.2	4.8	84.5	10.5			
★	TB-2	Topsoil	0.0	0.035	0.011	0.002	5	4	13.2	11.2	64.6	10.9			



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## GRAIN SIZE DISTRIBUTION TEST REPORT

DES #: 1802977 Structure #: Monroe Co. Bridge No. 315  
Project #: 170GC01077  
County: Monroe Route: Fullerton Pike Extension - Phase III  
Location: Rockport Road to Rogers Street, Bloomington, Indiana



Boring	Sample	Depth	Specific Gravity	Dry Density (pcf)	Qu (tsf)	c (tsf)	$\phi$ (deg)	Moisture %	Max Dry Density (pcf)	Opt. Moisture %	Resilient Modulus Remolded (psi)	Resilient Modulus In Situ Condition (psi)	Void Ratio	pH	Sulfate (ppm)	LOI (%)	Ca/Mg CO <sub>3</sub> (%)
RB-02A	SS1	1 - 2.5						25.4									
RB-02A	SS2	3.5 - 5						26.7									
RB-03	SS1	1 - 2.5						35.9									
RB-03	SS2	3.5 - 5						26.4									
RB-03	SS3	6 - 7.5						25.0									
RB-03	SS4	8.5 - 10						31.1									
RB-03	SS5	11 - 12.5						29.8									
RB-03	SS6	13.5 - 15						35.5									
RB-04	SS1	1 - 2.5						27.4									
RB-04	SS2	3.5 - 5						13.0									
RB-04	SS3	6 - 7.5						15.9									
RB-04	SS4	8.5 - 10						41.0									
RB-04	SS5	11 - 12.5						47.2									
RB-05	Bulk	1 - 3	2.670					30.0	97.29	21.9	6009	4458		5.9	< 100		
RB-05A	SS1	1 - 2.5						25.9									
RB-05A	SS2	3.5 - 5						25.6									
RB-05A	SS3	6 - 7.5						37.5									
RB-06	SS1	1 - 2.5						22.4									
RB-06	SS2	3.5 - 5						29.1									
RB-06	SS3	6 - 7.5						33.2									
RB-06A	SS1	1 - 2.5						27.9									
RB-06A	SS2	3.5 - 5						28.9									
RB-06A	SS3T	6 - 7						30.1						7.8	< 100		
RB-06A	SS3B	7 - 7.5						28.2									
RB-07	Topsoil	0 - 0.5						25.4						7.3		3.6	20
RB-07	SS2	3.5 - 5						28.3									
RB-07	SS3B	7 - 7.5						21.9									
RB-07	SS4	8.5 - 10						24.3									

**ATC Group Services LLC**  
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### Summary of Special Lab Tests

DES # : 1802977 County : Monroe  
 Route # : Fullerton Pike Extension - Phase III Project # : 170GC01077  
 Project Type : New Roadway  
 Location : Rockport Road to Rogers Street, Bloomington, Indiana



Boring	Sample	Depth	Specific Gravity	Dry Density (pcf)	Qu (tsf)	c (tsf)	$\phi$ (deg)	Moisture %	Max Dry Density (pcf)	Opt. Moisture %	Resilient Modulus Remolded (psi)	Resilient Modulus In Situ Condition (psi)	Void Ratio	pH	Sulfate (ppm)	LOI (%)	Ca/Mg CO <sub>3</sub> (%)
RB-07	SS5	11 - 12.5						31.5									
RB-08	Bulk	1 - 6							109.9	16.1				7.7	< 100		
RB-08	SS1	1.5 - 2.5						18.1									
RB-08	SS2	3.5 - 5						28.8									
RB-08	SS3	6 - 7.5						25.5									
RB-08	SS4	8.5 - 8.9						45.0									
RB-09	Topsoil	0 - 0.5						26.1						6.8		3.9	4
RB-09	SS1	1 - 2.5						19.8									
RB-09	SS2	3.5 - 5						30.2									
RB-09	SS3	6 - 7.5						43.6									
RB-10	SS1	1 - 2.5						23.2									
RB-10	SS2	3.5 - 4.6						35.3									
RB-11	SS1	1 - 2.5						25.9									
RB-11	SS2	3.5 - 4.2						31.2									
RB-12	SS1	1 - 2.5						25.2									
RB-15	SS1	1 - 2.5						24.3									
RB-15	SS2	3.5 - 5						38.8									
RB-16	SS1	1 - 2.5						27.2						6.9	< 100		
RB-17	SS1	1 - 2.5						22.7									
RB-17	SS2	3.5 - 5						15.7									
RB-17A	SS1	1 - 2.5						24.5									
RB-18	SS1	1 - 2.5						24.6									
RB-18	SS2	3.5 - 5						18.0									
RB-18	SS3	6 - 7.5						28.3									
RB-19	SS2	4 - 5						23.7						6.8	340		
RB-19	SS3	6.5 - 7.5						26.9									
RB-19	SS4T	9 - 9.5						49.1									
RB-19	SS4B	9.5 - 10						52.1									

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**Summary of Special Lab Tests**

DES # : 1802977 County : Monroe  
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 Project Type : New Roadway  
 Location : Rockport Road to Rogers Street, Bloomington, Indiana

Boring	Sample	Depth	Specific Gravity	Dry Density (pcf)	Qu (tsf)	c (tsf)	$\phi$ (deg)	Moisture %	Max Dry Density (pcf)	Opt. Moisture %	Resilient Modulus Remolded (psi)	Resilient Modulus In Situ Condition (psi)	Void Ratio	pH	Sulfate (ppm)	LOI (%)	Ca/Mg CO <sub>3</sub> (%)
RB-20	SS1	1 - 2.5						25.3						6.2	240		
RB-20	SS2	4 - 5						32.9						7.8	< 100		
RB-20	SS4	8.5 - 10						53.8									
RB-21	SS1	1 - 2.5						20.4									
RB-21	SS3	6 - 7.5						36.2									
RB-22	SS1	1 - 2.5						39.1									
RB-22	SS2	3.5 - 5						32.9									
RB-22	SS3	6 - 7.5						28.2									
RB-22	SS4	8.5 - 10						51.4									
RB-23	SS1	1 - 2.5						25.5									
RB-23	SS2	3.5 - 5						21.9									
RB-23	SS3	6 - 7.5						33.6									
RB-23	SS4	8.5 - 10						31.5									
RB-23	SS5	11 - 12.5						42.8									
RB-24	SS1	1 - 2.5						22.6									
RB-24	SS2	3.5 - 5						21.6									
RB-24	SS3	6 - 7.5						50.2									
RB-25	SS1	1 - 2.5						28.0									
RB-25	SS2	3.5 - 5						20.5									
RB-25	SS3	6 - 7.5						25.4									
RB-25	SS4	8.5 - 10						64.3									
RB-25A	SS1	1 - 2.5						36.9									
RB-25A	SS2	3.5 - 5						40.7									
RB-25A	SS3	6 - 6.8						56.3									
RB-26	SS1B	2 - 2.5						23.0									
RB-26	SS2	3.5 - 5						28.7									
RB-26	SS3	6 - 7.5						50.3									
RB-26	SS4	8.5 - 10						50.2									

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**Summary of Special Lab Tests**

DES # : 1802977 County : Monroe  
 Route # : Fullerton Pike Extension - Phase III Project # : 170GC01077  
 Project Type : New Roadway  
 Location : Rockport Road to Rogers Street, Bloomington, Indiana

Boring	Sample	Depth	Specific Gravity	Dry Density (pcf)	Qu (tsf)	c (tsf)	$\phi$ (deg)	Moisture %	Max Dry Density (pcf)	Opt. Moisture %	Resilient Modulus Remolded (psi)	Resilient Modulus In Situ Condition (psi)	Void Ratio	pH	Sulfate (ppm)	LOI (%)	Ca/Mg CO <sub>3</sub> (%)
RB-26	SS5	11 - 12.5						45.4									
RB-27	SS1	1 - 2.5						29.4									
RB-27	SS2	3.5 - 5						24.4									
RB-27	SS3	6 - 7.5						27.1									
RB-27	SS4	8.5 - 10						36.7									
RB-27	SS5	11 - 12.5						49.6									
RB-30	SS1	1 - 2.5						27.3									
RB-30	SS2	3.5 - 5						25.0									
RB-31	SS1	1 - 2.5						25.5									
RB-31	SS2	3.5 - 5						34.0									
RB-31	SS3	6 - 7.5						31.1									
RB-31	SS4	8.5 - 10						27.3									
RB-31	SS5	11 - 12.5						29.6									
RB-31	SS6	13.5 - 15						35.3									
RB-31	SS7	16 - 17.5						38.8									
S-1	SS2	3.5 - 5						28.7									
S-1-A	Topsoil	0 - 0.5						28.6						6.4		3.8	2
S-1-A	SS1	1 - 2.5						22.5									
S-1-A	SS2	3.5 - 5						17.3									
S-1-A	SS3	6 - 7.5						29.9									
S-2	SS1	1 - 2.5						23.1									
S-3	SS1	1 - 2.5						23.2									
S-4	SS1	1 - 2.5						29.8									
S-5	SS1	1 - 2.5						20.7						5.0	260		
S-5	SS2	3.5 - 5						19.7									
S-5	SS3	6 - 7.5						29.9									
TB-1	SS1	1 - 2.5						26.3									
TB-1	SS2	3.5 - 5						24.6									

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**Summary of Special Lab Tests**

DES # : 1802977 County : Monroe  
 Route # : Fullerton Pike Extension - Phase III Project # : 170GC01077  
 Project Type : New Roadway  
 Location : Rockport Road to Rogers Street, Bloomington, Indiana

Boring	Sample	Depth	Specific Gravity	Dry Density (pcf)	Qu (tsf)	c (tsf)	φ (deg)	Moisture %	Max Dry Density (pcf)	Opt. Moisture %	Resilient Modulus Remolded (psi)	Resilient Modulus In Situ Condition (psi)	Void Ratio	pH	Sulfate (ppm)	LOI (%)	Ca/Mg CO <sub>3</sub> (%)
TB-1	SS3	6 - 6.7						18.7									
TB-2	Topsoil	0 - 0.5						27.1						7.7		4.7	4
TB-2	SS2	3.5 - 4.3						16.4									
TB-2	RC	6 - 6.5															
TB-2	RC	8 - 8.5			624												
TB-2	RC	10.4 - 10.9			475												
TB-2	RC	13.5 - 14			397												
TB-2	RC	15.3 - 15.8			742												
TB-2	RC	18 - 18.5			723												
TB-2	RC	22.5 - 23			698												
TB-3	SS1	1 - 2.5						23.0									
TB-3	RC	6.3 - 6.8			719												
TB-3	RC	12 - 12.5			449												
TB-3	RC	16 - 16.5			523												
TB-3	RC	18 - 18.5			511												
TB-3	RC	21 - 21.5			562												
TB-3	RC	23 - 23.5			646												
TB-4	SS1	1 - 2.5						15.4									
TB-4	RC	7.7 - 8.2			661												
TB-4	RC	10 - 10.5			444												
TB-4	RC	10.8 - 11.3			587												
TB-4	RC	12.4 - 12.9			741												
TB-4	RC	15.2 - 15.7			598												
TB-4	RC	17.4 - 17.9			740												
TB-4	RC	21.4 - 21.9			684												
TB-5	SS1	1 - 2.5						28.4									

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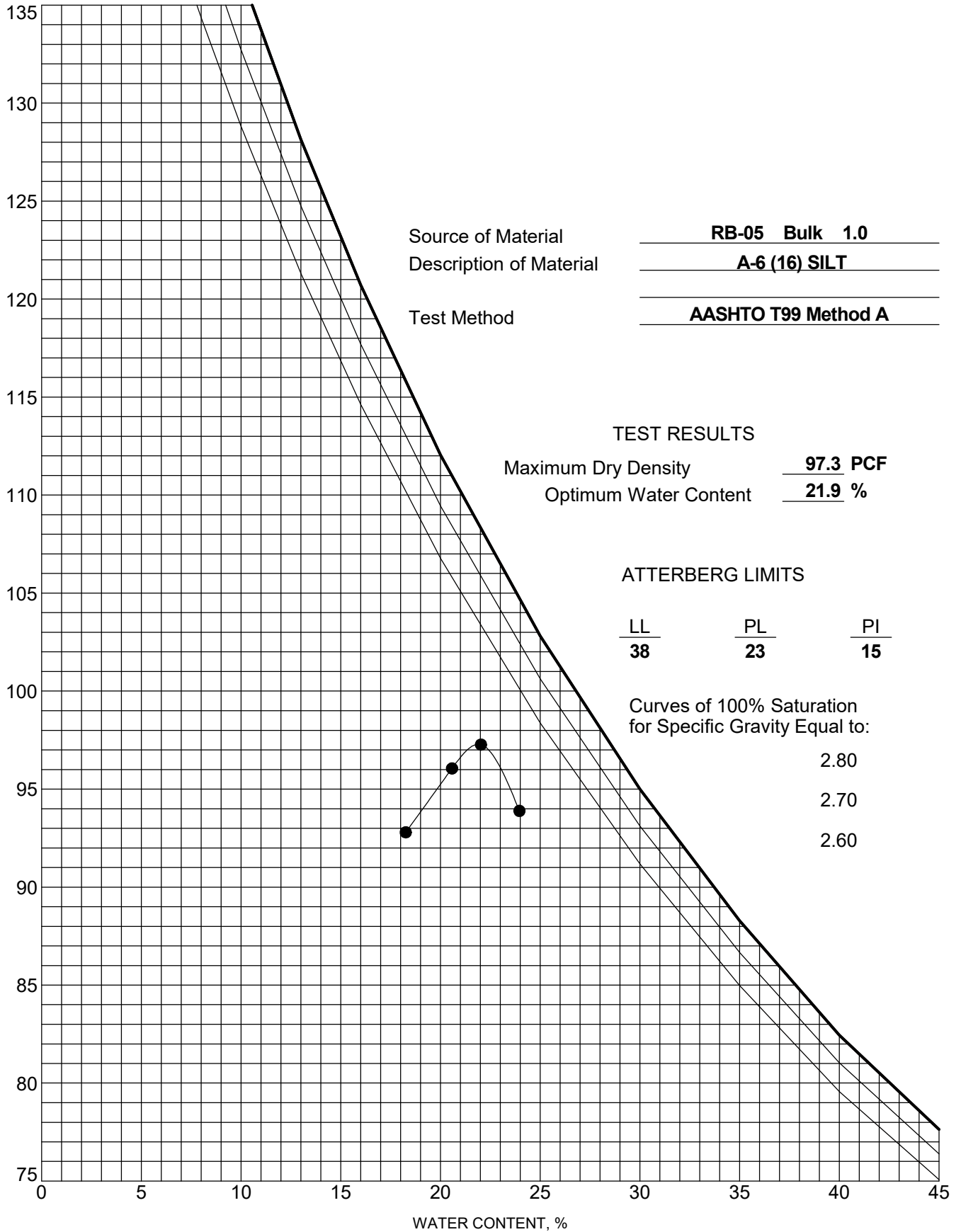


AN ATLAS COMPANY

### Summary of Special Lab Tests

DES # : 1802977 County : Monroe  
Route # : Fullerton Pike Extension - Phase III Project # : 170GC01077  
Project Type : New Roadway  
Location : Rockport Road to Rogers Street, Bloomington, Indiana

DRY DENSITY, pcf



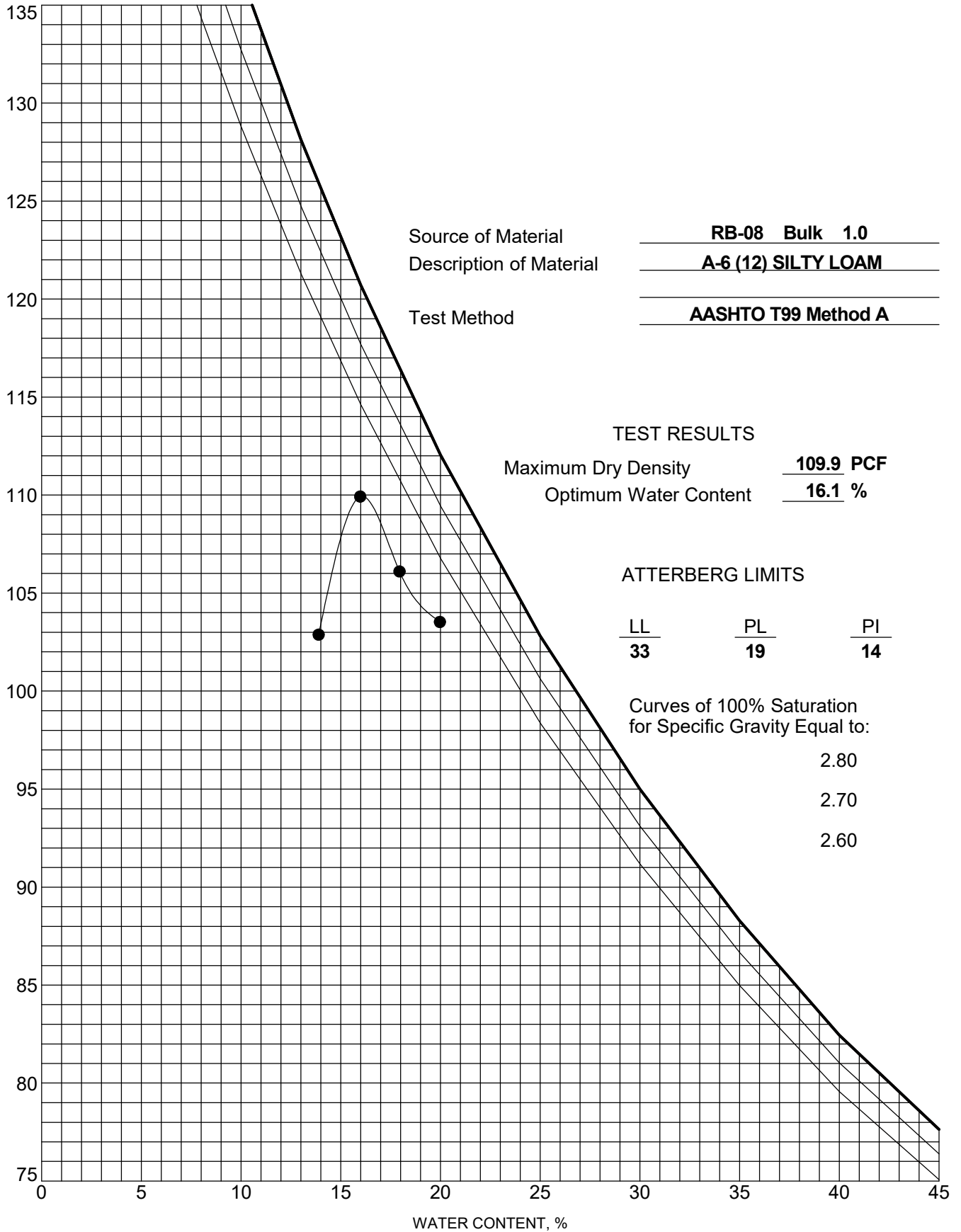
ATC Group Services LLC  
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 Telephone: +1 317 849 4990  
 Fax: +1 317 849 4278



### MOISTURE-DENSITY RELATIONSHIP

DES #: 1802977	Structure #:
Project #: 170GC01077	Contract #: R-41862
County: Monroe	Route: Fullerton Pike
Location: Rockport Road to Rogers Street, Bloomington, Indiana	

DRY DENSITY, pcf



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### MOISTURE-DENSITY RELATIONSHIP

DES #: 1802977	Structure #:
Project #: 170GC01077	Contract #: R-41862
County: Monroe	Route: Fullerton Pike
Location: Rockport Road to Rogers Street, Bloomington, Indiana	



Client:	ATC Group Services, LLC	Test Date:	03/01/21
Project Name:	Fullerton Pike	Tested By:	trm
Project Location:	Bloomington, IN	Checked By:	anm
GTX #:	313190		
Boring ID:	RB-5		
Sample ID:	Bulk		
Depth, ft.	1-3		
Soil Description:	Moist, brown clay		
Sample Preparation:	Target Compaction: 95% of 97 pcf at 24% moisture content (provided by client)		
Material Type:	Type 2		
Test No.:	RM-1		
Test Comments:	Atterberg Limits and Proctor values provided by client.		

## Resilient Modulus of Soil by AASHTO T 307

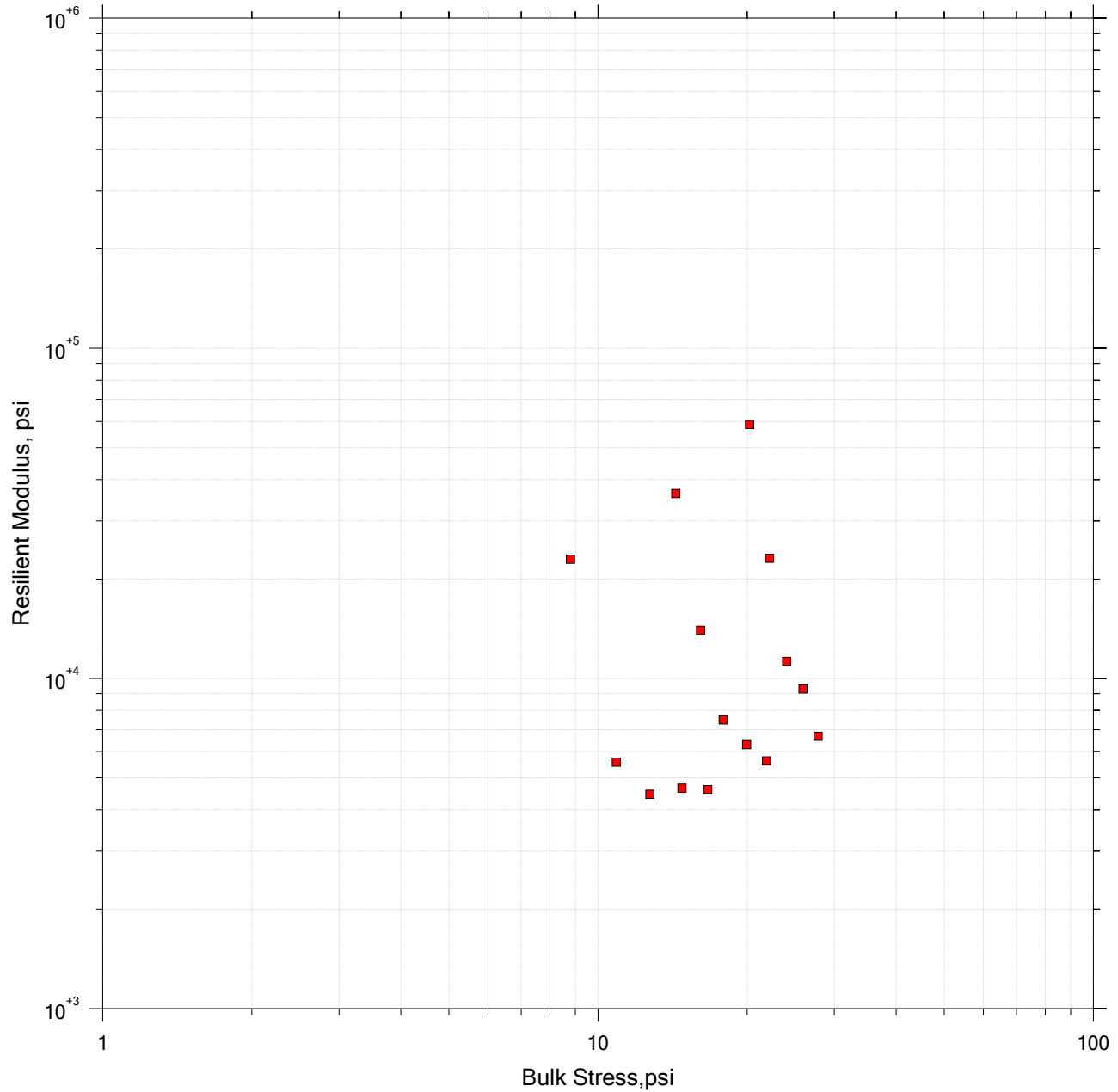
Test Information:		
Preconditioning-Greater than 5% perm. strain? (Y=yes or N=no)		N
Testing-greater than 5% perm. Strain? (Y=yes or N=no)		N
Testing-Number of Load Sequences Completed (0-15)		15
Specimen Information:		
Diameter @ top of compacted specimen (in.)		2.87
Diameter @ middle of compacted specimen (in.)		2.87
Diameter @ bottom of compacted specimen (in.)		2.87
Average Diameter of specimen (in.)		2.87
Membrane Thickness { 1 } (in.)		0.01
Membrane Thickness { 2 } (in.)		0
Net Diameter (in.)		2.86
Height of Specimen, Cap and Base, (in.)		8.3
Height Cap and Base, (in.)		2.3
Initial Length of Specimen, Lo, (in.)		5.97
Initial Area Cross Section of Specimen, Ao, (in <sup>2</sup> )		6.42
Initial Volume of Specimen, (Ao)(Lo), (in <sup>3</sup> )		38.3
Soil Specimen Weight		---
Initial Weight of Container and Wet Soil, (grams)		---
Final Weight of Container and Wet Soil, (grams)		---
Weight of Wet Soil Used (grams)		1156
Soil Properties:		
In Situ Moisture Content(Nuclear), %		N/A
In Situ Wet Density (Nuclear), (pcf)		N/A
Specific Gravity		---
Liquid Limit		38
Plastic Limit		23
Plasticity Index		15
Test Specimen Properties:		
Compaction Moisture Content, %		25.9
Moisture Content after Resilient Modulus Testing, %		23.2
Compaction Dry Density r <sub>d</sub> , pcf		91.3
Permanent Strain, %		1.3
Quick Shear Test		N/A
Stress-Strain Plot Attached (Y=yes, N=no)		N
Triaxial Shear Maximum Strength (Max Load/X-Section Area), psi		N/A
Specimen Fail During Triaxial Shear? (Y=yes, N=no)		N/A


# RM TEST

## Summary Data

$$Mr = 11764 * B^{-0.0463}$$

$$r = -0.018565$$



	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-1	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		

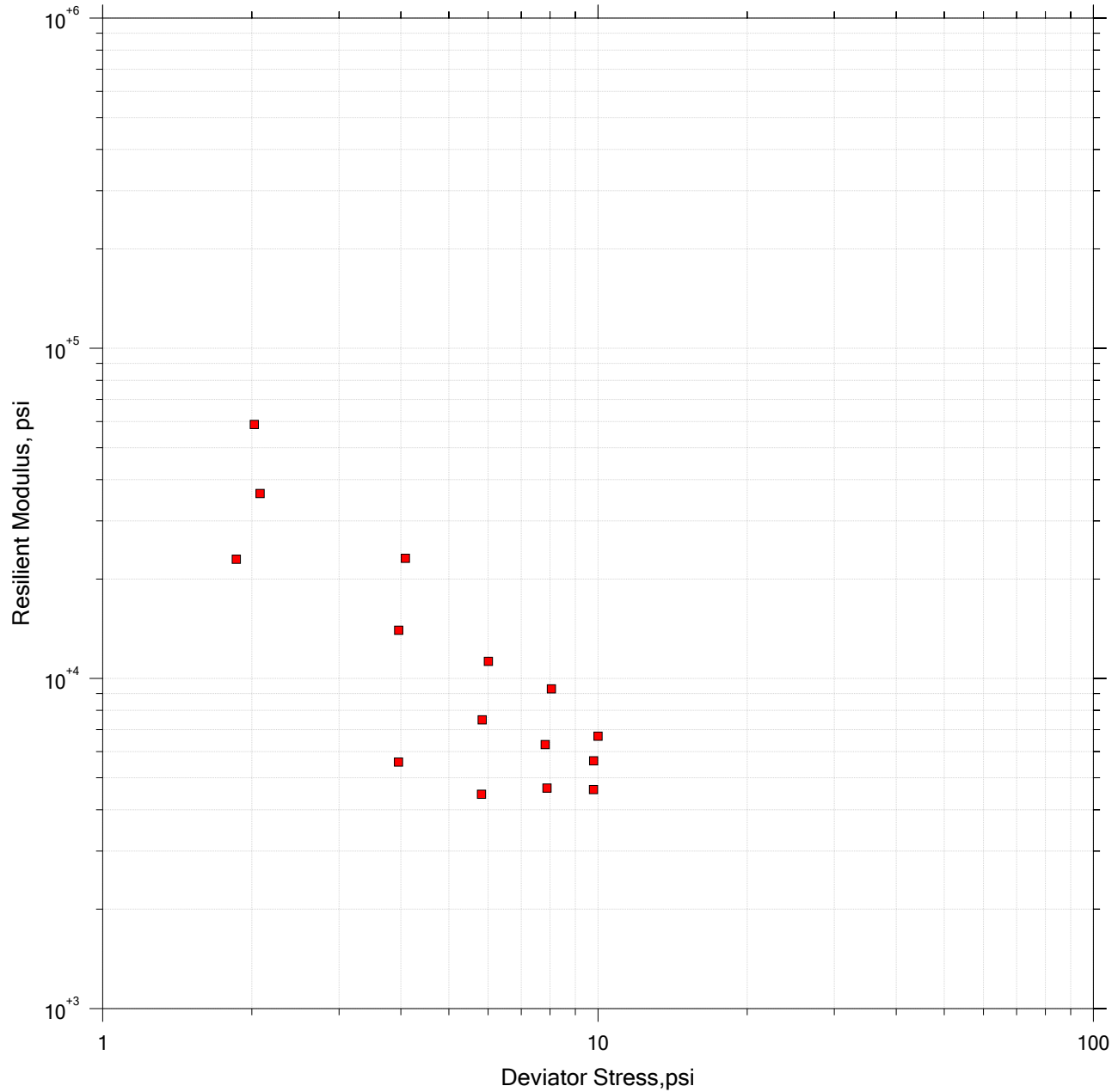



# RM TEST

## Summary Data

$$Mr = 69867 * Sd^{-1.17}$$

$$r = -0.83934$$



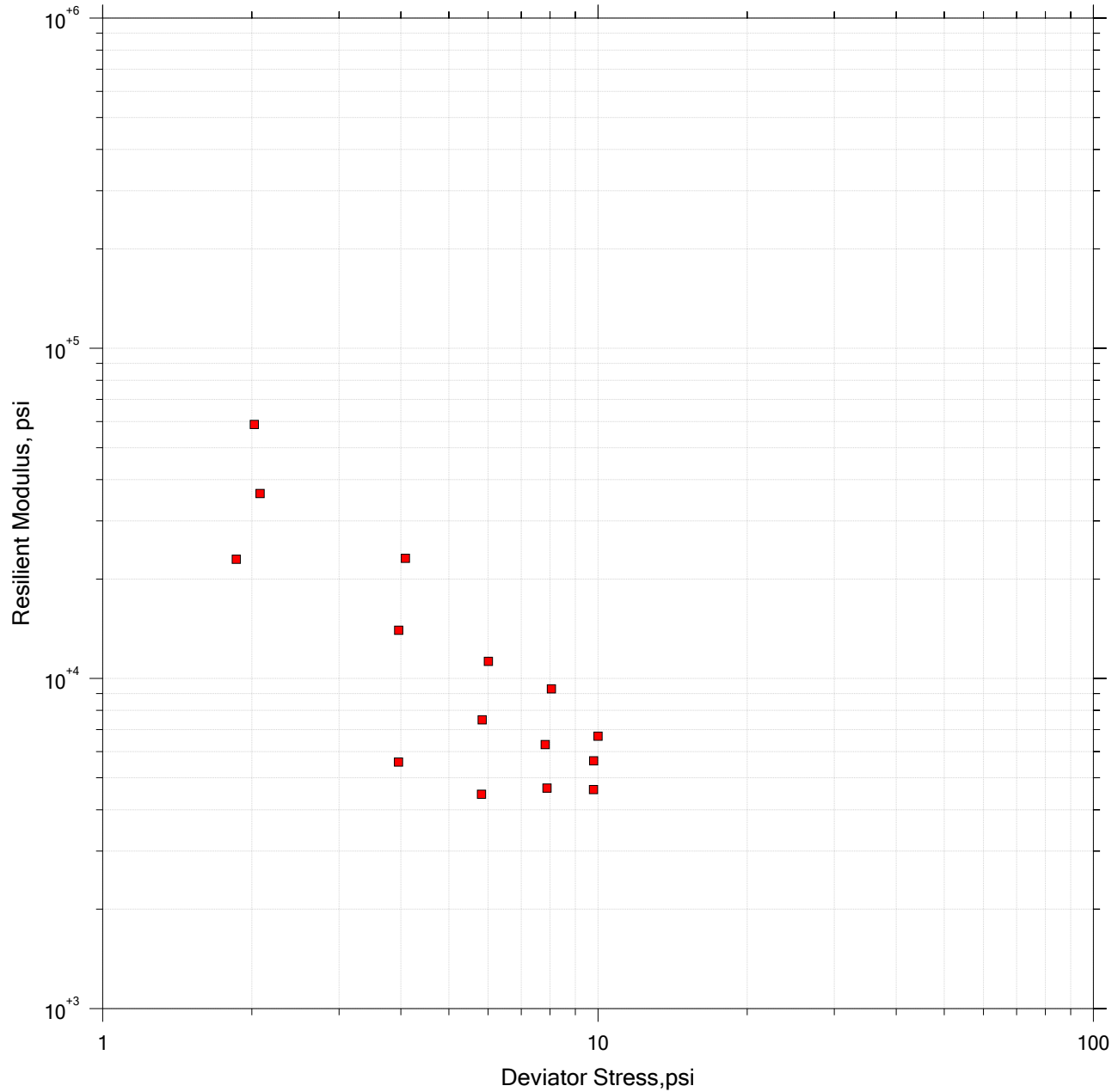
	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-1	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		


# RM TEST

## Summary Data

$$Mr = 100.45 * Pa * (B/Pa)^{1.49} * (Sd/Pa)^{-1.61}$$

r = 0.98065




	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-1	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		

## RM TEST

### Summary Data

[illegible]

	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-1	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		
	<div>Page 5 of 5</div>		



Client:	ATC Group Services, LLC	Test Date:	03/01/21
Project Name:	Fullerton Pike	Tested By:	trm
Project Location:	Bloomington, IN	Checked By:	anm
GTX #:	313190		
Boring ID:	RB-5		
Sample ID:	Bulk		
Depth, ft.	1-3		
Soil Description:	Moist, brown clay		
Sample Preparation:	Target Compaction: 95% of 97 pcf at 22% moisture content (provided by client)		
Material Type:	Type 2		
Test No.:	RM-2		
Test Comments:	Atterberg Limits and Proctor values provided by client.		

## Resilient Modulus of Soil by AASHTO T 307

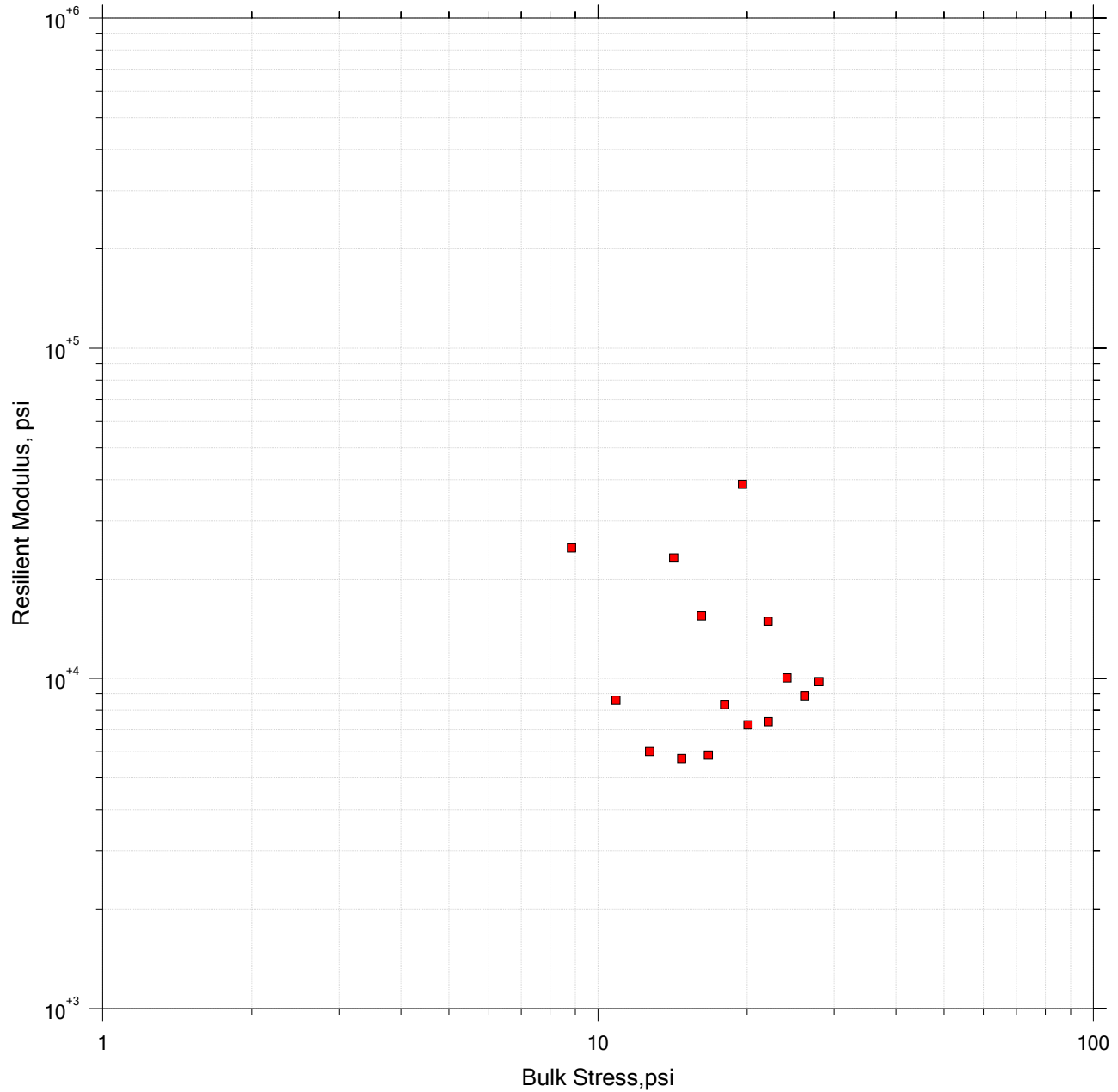
Test Information:		
Preconditioning-Greater than 5% perm. strain? (Y=yes or N=no)		N
Testing-greater than 5% perm. Strain? (Y=yes or N=no)		N
Testing-Number of Load Sequences Completed (0-15)		15
Specimen Information:		
Diameter @ top of compacted specimen (in.)		2.87
Diameter @ middle of compacted specimen (in.)		2.87
Diameter @ bottom of compacted specimen (in.)		2.87
Average Diameter of specimen (in.)		2.87
Membrane Thickness { 1 } (in.)		0.01
Membrane Thickness { 2 } (in.)		0
Net Diameter (in.)		2.86
Height of Specimen, Cap and Base, (in.)		8.3
Height Cap and Base, (in.)		2.3
Initial Length of Specimen, Lo, (in.)		5.97
Initial Area Cross Section of Specimen, Ao, (in <sup>2</sup> )		6.42
Initial Volume of Specimen, (Ao)(Lo), (in <sup>3</sup> )		38.3
Soil Specimen Weight		---
Initial Weight of Container and Wet Soil, (grams)		---
Final Weight of Container and Wet Soil, (grams)		---
Weight of Wet Soil Used (grams)		1137
Soil Properties:		
In Situ Moisture Content(Nuclear), %		N/A
In Situ Wet Density (Nuclear), (pcf)		N/A
Specific Gravity		---
Liquid Limit		38
Plastic Limit		23
Plasticity Index		15
Test Specimen Properties:		
Compaction Moisture Content, %		22.9
Moisture Content after Resilient Modulus Testing, %		21.4
Compaction Dry Density r <sub>d</sub> , pcf		91.9
Permanent Strain, %		0.7
Quick Shear Test		N/A
Stress-Strain Plot Attached (Y=yes, N=no)		N
Triaxial Shear Maximum Strength (Max Load/X-Section Area), psi		N/A
Specimen Fail During Triaxial Shear? (Y=yes, N=no)		N/A


# RM TEST

## Summary Data

$$Mr = 23514 * B^{-0.27}$$

$r = -0.15198$



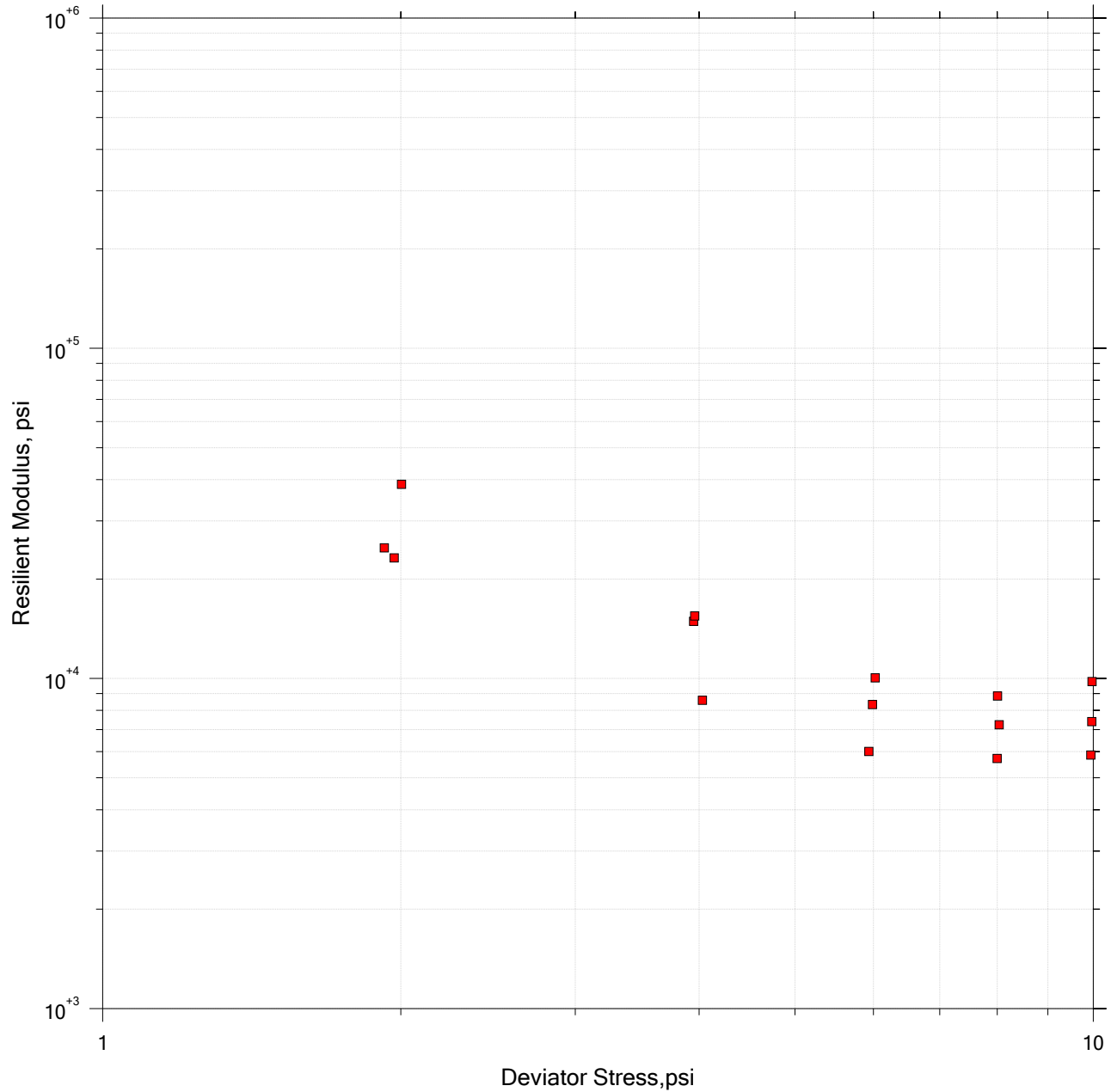
	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-2	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		


# RM TEST

## Summary Data

$$Mr = 45126 * Sd^{-0.866}$$

r = -0.88453



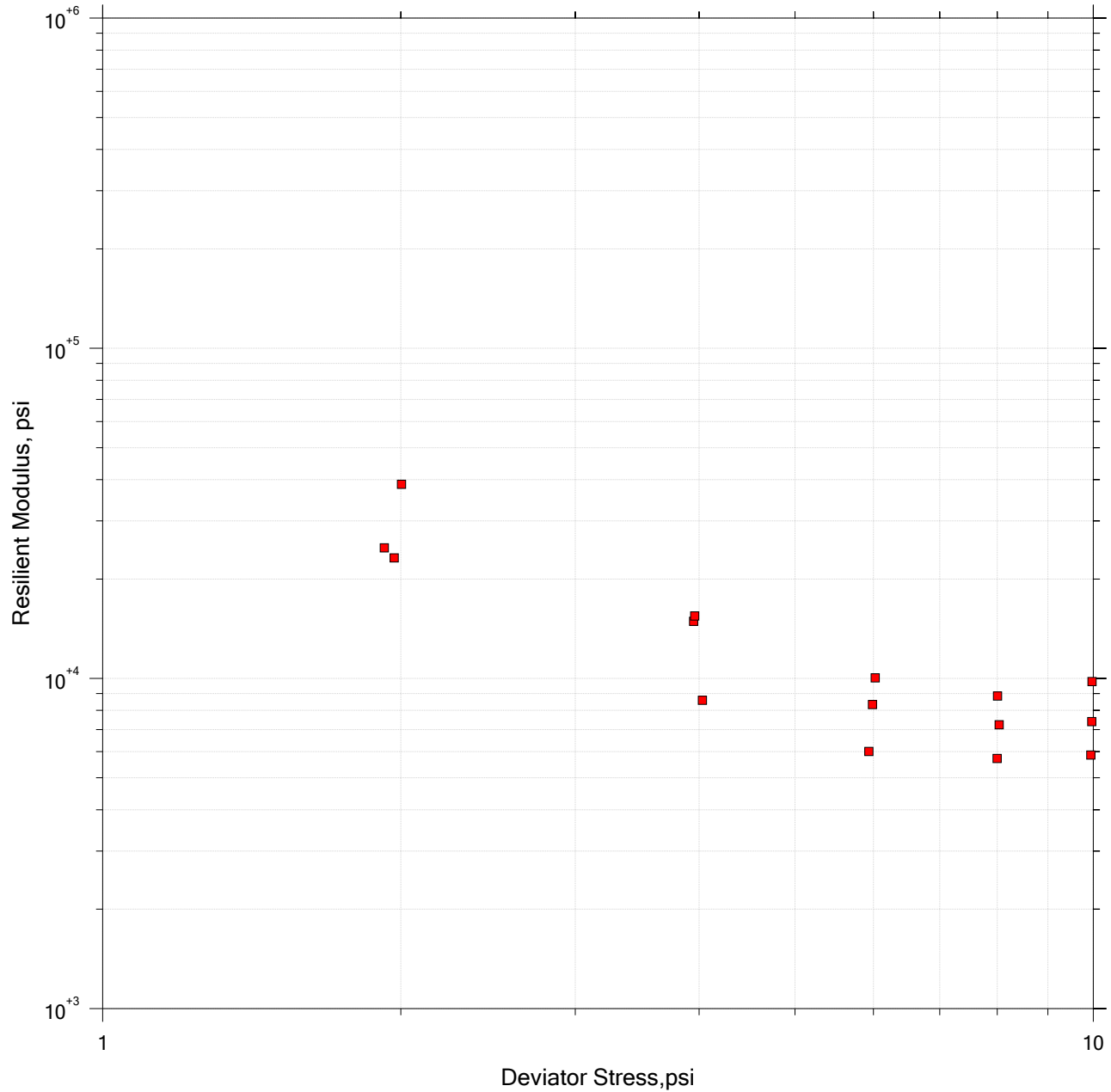
	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-2	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		


# RM TEST

## Summary Data

$$Mr = 205.78 * Pa * (B/Pa)^{0.789} * (Sd/Pa)^{-1.1}$$

r = 0.96099




	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-2	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		

## RM TEST

### Summary Data

[illegible]

	Project Name: Fullerton Pike	Location: Bloomington, IN	Project Number: GTX-313190
	Boring Number: RB-5	Tester: trm	Checker: anm
	Sample Number: Bulk	Test Date: 3/1/21	Depth: 1-3
	Test Number: RM-2	Preparation: reconstituted	Elevation: ---
	Description: Moist, brown clay		
	Remarks: System U		
	<div>Page 5 of 5</div>		



# INDIANA DEPARTMENT OF TRANSPORTATION

## Geotechnical Services Division

### Summary of Existing Topsoil Test Results for use with Plant Growth Layer

Rev 10/20

Date: 12/9/2020  
 Des. No.: 1802977  
 Project: Fullerton Pike Extension  
 Location: Monroe County, Indiana

					ANALYSIS							
REF.	LOCATION				AASHTO T 289	AASHTO T 88 and T 89	AASHTO T 88 and T 89	AASHTO T 88 and T 89	AASHTO T 88 and T 89	AASHTO T 267 and T 21*	NCRRP 221, Chapter 6, Bray P-1**	NCRRP 221, Chapt 7***
Boring	Station	Offset (feet)	Lt/Rt	Tested Depth (inch)	pH	Gravel	Sand	Silt	Clay	Organic Content (% by Wt)	Phosphorus (ppm)	Potassium (ppm)
						(% by Weight)						
RB-07	268+05	18	Left	0 - 4	7.7	6.7	16.7	62.7	13.9	3.1	4	80
RB-9	272+16	48	Left	0 - 6	6.8	0.3	4.5	76.7	18.5	4.0	4	75
S-1-A	276+77	75	Left	0 - 6	6.1	0.2	4.8	84.5	10.5	3.4	12	103
TB-2	277+88	70	Left	0 - 6	7.7	13.2	11.2	64.6	10.9	4.0	12	126
	Acceptable Ranges per Recurring Special Provision 629-R-630 "Plant Growth Layer"				6.0 - 7.3	N/A	5 - 50%	30 - 80%	5 - 30%	3 - 10%*	20 - 80	105 - 250

\* In Daviess, Gibson, Knox, Pike, Posey, and Vanderburgh Counties, AASHTO T 21 shall also be performed. Acceptable range is 4 - 10%

\*\* North Central Regional Research Publication 221, Chapter 6

\*\*\* North Central Regional Research Publication 221, Chapter 7

**Note:** All existing topsoil test results presented herein are for information only.

## **APPENDIX D**

### **AASHTO SEISMIC PARAMETERS**

## Seismic Considerations

Geotechnical Consultant: ATC Group Services, LLC

Project Type: New Roadway

Route: Fullerton Pike

Location

County: Monroe

INDOT Des. No.: 2001721

Project No.: 170GC01077

Latitude: 39.122058

Longitude: -86.55811

Mapped Values of Coefficients, courtesy of <https://earthquake.usgs.gov/ws/designmaps/aashto-2009>

PGA 0.075

S<sub>s</sub> 0.172

S<sub>1</sub> 0.064

Soil Site Class C

AASHTO LRFD Table 3.10.3.2 - Values of Site Factor,  $F_{pga}$  at Zero Period on Acceleration Spectrum

Site Class	Peak Ground Acceleration Coefficient (PGA)				
	0.1	0.2	0.3	0.4	0.5
A	0.8	0.8	0.8	0.8	0.8
B	1	1	1	1	1
C	1.2	1.2	1.1	1	1
D	1.6	1.4	1.2	1.1	1
E	2.5	1.7	1.2	0.9	0.9

$F_{pga}$  1.2

AASHTO LRFD Table 3.10.3.2.2 - Values of Site Factor,  $F_a$ , for Short period Range of Acceleration Spectrum

Site Class	Spectral Acceleration Coefficient at Period 0.2 sec ( $S_s$ )				
	0.25	0.5	0.75	1	1.25
A	0.8	0.8	0.8	0.8	0.8
B	1	1	1	1	1
C	1.2	1.2	1.1	1	1
D	1.6	1.4	1.2	1.1	1
E	2.5	1.7	1.2	0.9	0.9

$F_a$  1.2

$A_s = F_{PGA} \times PGA = 0.090$

AASHTO LRFD Table 3.10.3.2.3 Values of Site Factor,  $F_v$ , for long Period Range of Acceleration Spectrum

Site Class	Spectral Acceleration Coefficient at Period 1.0 sec ( $S_1$ )				
	0.1	0.2	0.3	0.4	0.5
A	0.8	0.8	0.8	0.8	0.8
B	1	1	1	1	1
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4

$F_v$  1.7

Design Spectral Response Acceleration Coefficient at 1-second period ( $S_{D1}$ )

$S_{D1} = F_v \times S_1$  (AASHTO LRFD 3.10.4.2-6)

$S_{D1} = 0.109$

AASHTO LRFD Table 3.10.3-1, Seismic Zones

Acceleration Coefficient, $S_{D1}$	Seismic Zone
$\leq 0.15$	1
$\leq 0.3$	2
$\leq 0.5$	3
$> 0.5$	4

Seismic Zone 1

## **APPENDIX E**

DRILLED SHAFT FOUNDATION ANALYSES  
SPREAD FOOTING ANALYSES

CLIENT American Structurepoint

PROJECT

Fullerton Pike Extension Phase III  
Des. No. 1802977 Moores Co., INPROJECT NUMBER 170GCO1077SHEET 1 OF 7DATE 1-6-2021COMPLETED BY Tom S.

CHECKED BY \_\_\_\_\_

## Drilled Shaft Rock Socket Capacity

- Based design on side resistance in rock socket in competent limestone bedrock.
- Average uniaxial compressive strength of rock within competent limestone bedrock zone is estimated to be approx. 7,000 psi =  $f_u$
- Use Class A concrete with  $f'_c = 3,500$  psi.

Since  $f'_c < f_u$  use  $f'_c$  for controlling strength

AASHTO LRFD 10.8.3.5.4b - Side Resistance for drilled shafts socketed into rock

$q_s$  = Unit Side Resistance,  $p_a$  = atmospheric press.

$C$  = regression coefficient = 1.0 for normal conditions

$$q_s = p_a (C) \sqrt{\frac{f_u}{p_a}} = p_a (C) \sqrt{\frac{f'_c}{p_a}}$$

$$q_s = 2.12 \text{ ksf} (1.0) \sqrt{\frac{504 \text{ ksf}}{2.12 \text{ ksf}}} = 33 \text{ ksf}$$

Resistance Factor  $\phi$  for side resistance in rock = 0.55

$$\text{Factored Side Resistance} = 0.55 (33 \text{ ksf}) = 18 \text{ ksf}$$



CLIENT American Shusterman

PROJECT NUMBER 170GC01077

SHEET 2 OF 7

DATE 1-6-2021

COMPLETED BY Tom S.

CHECKED BY \_\_\_\_\_

PROJECT Fullerton Pike Phase III  
Des. No. 1802977, Monroe County

## Rock Bearing Spread Footings

### Determine Rock Mass Rating of Competent Bedrock

1. Strength of Rock:  $q_{avg} = 500 \text{ tsf} = 1,000 \text{ ksf}$   
Relative Rating = 4

2. RQD:  $RQD_{avg} = 80\%$  below spread  
footing depth  
Relative Rating = 17

3. Spacing of Joints: 1 ft to 3 ft  
Relative Rating = 20

4. Condition of Joints: Slightly rough, separation < 0.05"  
Soft joint wall rock

Relative Rating = 15

5. Ground Water: Moist only  
Relative Rating = 7

$RMR = \text{Sum of Relative Ratings} = 63$   
Adjustment for joint orientation = 0

Use  $RMR = 63$

PARAMETER			RANGES OF VALUES						
1	Strength of intact rock material	Point load strength index	>175 ksf	85-175 ksf	45-85 ksf	20-45 ksf	For this low range, uniaxial compressive test is preferred		
		Uniaxial compressive strength	>4320 ksf	2160-4320 ksf	1080-2160 ksf	520-1080 ksf	215-520 ksf	70-215 ksf	20-70 ksf
	Relative Rating		15	12	7	4	2	1	0
2	Drill core quality RQD		90% to 100%	75% to 90%	50% to 75%	25% to 50%	<25%		
	Relative Rating		20	17	13	8	3		
3	Spacing of joints		>10 ft.	3-10 ft.	1-3 ft.	2 in.-1 ft.	<2 in.		
	Relative Rating		30	25	20	10	5		
4	Condition of joints		<ul style="list-style-type: none"><li>• Very rough surfaces</li><li>• Not continuous</li><li>• No separation</li><li>• Hard joint wall rock</li></ul>	<ul style="list-style-type: none"><li>• Slightly rough surfaces</li><li>• Separation &lt;0.05 in.</li><li>• Hard joint wall rock</li></ul>	<ul style="list-style-type: none"><li>• Slightly rough surfaces</li><li>• Separation &lt;0.05 in.</li><li>• Soft joint wall rock</li></ul>	<ul style="list-style-type: none"><li>• Slicken-sided surfaces or</li><li>• Gouge &lt;0.2 in. thick or</li><li>• Joints open 0.05-0.2 in.</li><li>• Continuous joints</li></ul>	<ul style="list-style-type: none"><li>• Soft gouge &gt;0.2 in. thick or</li><li>• Joints open &gt;0.2 in.</li><li>• Continuous joints</li></ul>		
	Relative Rating		25	20	12	6	0		
5	Ground water conditions (use one of the three evaluation criteria as appropriate to the method of exploration)	Inflow per 30 ft. tunnel length	None	<400 gal./hr.	400-2000 gal./hr.	>2000 gal./hr.			
		Ratio = joint water pressure/ major principal stress	0	0.0-0.2	0.2-0.5	>0.5			
		General Conditions	Completely Dry	Moist only (interstitial water)	Water under moderate pressure	Severe water problems			
	Relative Rating		10	7	4	0			

Table 3.1.2b Geomechanics Classification of Rock Masses  
AASHTO Table 10.4.6.4-1 U.S.

Rock Quality	Constants	Rock Type				
		A = Carbonate rocks with well developed crystal cleavage— <i>dolomite, limestone and marble</i> B = Lithified argillaceous rocks— <i>mudstone, siltstone, shale and slate (normal to cleavage)</i> C = Arenaceous rocks with strong crystals and poorly developed crystal cleavage— <i>sandstone and quartzite</i> D = Fine grained polyminerallic igneous crystalline rocks— <i>andesite, dolerite, diabase and rhyolite</i> E = Coarse grained polyminerallic igneous & metamorphic crystalline rocks— <i>amphibolite, gabbro gneiss, granite, norite, quartz-diorite</i>				
		A	B	C	D	E
INTACT ROCK SAMPLES Laboratory size specimens free from discontinuities CSIR rating: <i>RMR</i> = 100	<i>m</i> <i>s</i>	7.00 1.00	10.00 1.00	15.00 1.00	17.00 1.00	25.00 1.00
VERY GOOD QUALITY ROCK MASS Tightly interlocking undisturbed rock with unweathered joints at 900–3000 mm CSIR rating: <i>RMR</i> = 85	<i>m</i> <i>s</i>	2.40 0.082	3.43 0.082	5.14 0.082	5.82 0.082	8.567 0.082
GOOD QUALITY ROCK MASS Fresh to slightly weathered rock, slightly disturbed with joints at 900–3000 mm CSIR rating: <i>RMR</i> = 65	<i>m</i> <i>s</i>	0.575 0.00293	0.821 0.00293	1.231 0.00293	1.395 0.00293	2.052 0.00293
FAIR QUALITY ROCK MASS Several sets of moderately weathered joints spaced at 300–900 mm CSIR rating: <i>RMR</i> = 44	<i>m</i> <i>s</i>	0.128 0.00009	0.183 0.00009	0.275 0.00009	0.311 0.00009	0.458 0.00009
POOR QUALITY ROCK MASS Numerous weathered joints at 50–300 mm; some gouge. Clean compacted waste rock. CSIR rating: <i>RMR</i> = 23	<i>m</i> <i>s</i>	0.029 $3 \times 10^{-6}$	0.041 $3 \times 10^{-6}$	0.061 $3 \times 10^{-6}$	0.069 $3 \times 10^{-6}$	0.102 $3 \times 10^{-6}$
VERY POOR QUALITY ROCK MASS Numerous heavily weathered joints spaced <50 mm with gouge. Waste rock with fines. CSIR rating: <i>RMR</i> = 3	<i>m</i> <i>s</i>	0.007 $1 \times 10^{-7}$	0.010 $1 \times 10^{-7}$	0.015 $1 \times 10^{-7}$	0.017 $1 \times 10^{-7}$	0.025 $1 \times 10^{-7}$

Table 3.1.9a Relationship between Rock-Mass Quality and Material Constants Used in Defining Nonlinear Strength (Hoek and Brown, 1988)  
AASHTO Table 10.4.6.4-4 S.I.



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PROJECT Fullerton Pike Phase III  
Des. No. 1802977, Monroe Co., INDetermination of Instantaneous Friction Angle,  $\phi_i'$ 

$$\phi_i' = \tan^{-1} \left[ (4h \cos^2 [30 + 0.33 \sin^{-1} (h^{-3/2})] - 1)^{-1/2} \right]$$

$$h = 1 + 16 (m \sigma'_m + s q_u) / 3 m^2 q_u$$

Materials constants "m" and "s" are based upon RMR

For RMR = 63, "Good Quality Rock" and

Limestone Rock Type A

$$m = 0.575 \quad s = 0.00293$$

Use  $\sigma'_m = 1.0 \text{ ksf}$  and  $q_{u \text{ avg}} = 1,000 \text{ ksf}$ 

$$h = 1 + 16 (0.575 (1.0 \text{ ksf}) + 0.00293 (1,000 \text{ ksf})) / 3 (0.575)^2 (1,000)$$

$$h = 1.06$$

$$\phi_i' = \tan^{-1} \left[ (4(1.06) \cos^2 [30 + 0.33 \sin^{-1} (1.06)^{-3/2}] - 1)^{-1/2} \right]$$

$$\phi_i' = 52^\circ$$

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PROJECT Fullerton Pike Phase III  
Des. No. 1802977, Monroe Co., IN

## Bearing Resistance of Spread Footing Bearing on Limestone Bedrock

Based upon RMR,  $\phi'_i \approx 52^\circ$ , conservatively use  $\phi_f = 45^\circ$  for foundation bearing material

AASHTO LRFD Bridge Design Specifications 106.3.1

$$q_R = \phi_b q_n \quad q_n = 0.5 \gamma_f B N_{\gamma m} C_{w\gamma} \quad \phi_b = 0.45$$

$$N_{\gamma m} = N_{\gamma} s_{\gamma} i_{\gamma} \quad s_{\gamma} = 1.0 - 0.4(B/L) \quad i_{\gamma} = 1.0$$

$$s_{\gamma} = 1.0 - 0.4\left(\frac{5}{40}\right) = 0.95$$

$$\text{for } \phi_f = 45^\circ \quad N_{\gamma} = 272 \quad \gamma_f = 150 \text{ #/ft}^3 \quad C_{w\gamma} = 0.5$$

$$q_n = 0.5 (150 \text{ #/ft}^3) (5 \text{ ft}) (272) (0.95) (1.0) (0.5)$$

$$q_n = 48,450 \text{ #/ft}^2$$

$$q_R = 0.45 (48.4 \text{ ksf}) = 22 \text{ ksf for 5 ft wide footing}$$

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PROJECT

Fullerton Pike Phase IIIDes. No. 1802977, Monroe Co., IN

## Sliding Resistance of Spread Footings

- Based upon AASHTO LRFD Bridge Design Specs. Table C3.11.5.3-1, the coefficient of sliding friction between mass concrete footing and the highly fractured limestone is taken as 0.60

Factored Resistance to Sliding,  $R_R$

$$R_R = \phi_T R_T \text{ where } \phi_T = 0.8$$

$$R_T = V(0.60) \text{ where } V = \text{Vertical downward force on footing under sliding load conditions}$$

$$R_R = 0.8 (V)(0.60)$$

$$R_R = 0.48 V, \text{ where } V \text{ is defined in AASHTO LRFD Bridge Design Specifications Section 10.6.3.4}$$

$$\text{Use } R_R = 0.5 V \text{ for design}$$

## **APPENDIX F**

### **MEMORANDUM – KARST FEATURES RE-EVALUATION**



---

## M E M O R A N D U M

---

**DATE:** December 21, 2020  
**TO:** Lisa Ridge, Director, Monroe County Highway Department  
**FROM:** Paul A. Johnson, LPG  
**RE:** Fullerton Pike Phase III (DES No. 1802977) –Karst Features Re-Evaluation (2019-20)  
**CC:** Josh Iddings, Sarah Everhart and Patrick Wooden, PE (American Structurepoint), INDOT Environmental Services

---

The purpose of this memorandum is to provide a re-evaluation of karst resources within the proposed right-of-way areas for Phase III of the Fullerton Pike Corridor project located in Bloomington, Monroe County, Indiana (Des. No. 1802977). Preliminary design for Phase III includes additional right-of-way not evaluated for karst resources in previous investigations completed in 2013. This investigation was conducted in general conformance with the guidelines established in the 1993 Karst Memorandum of Understanding (MOU) and INDOT guidance.

Fullerton Pike is proposed as an east-west corridor on the south side of Bloomington, Monroe County, Indiana. Phase III of the project begins 0.04 mile west of South Rogers Street continuing west to 0.11 mile west of Rockport Road and includes a new bridge over an unnamed tributary of Clear Creek and the Clear Creek Trail. An Environmental Assessment (EA) was prepared for the overall project (Rockport Road to South Sare Road) and approved by the Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA) on November 19, 2014. A Finding of No Significant Impact (FONSI) was issued on March 30, 2015 for the Fullerton Pike Corridor Improvement project (Des. No. 0801059).

The project is located within the Mitchell Plateau physiographic region of Indiana, an area characterized by classic karst with an abundance of sinkholes, caves, and large springs (Gray, 2000). In this area, much of the drainage is by way of underground routes that emerge as large springs along the valleys of entrenched streams (Gray, 2000).

### **Summary of Previous Investigations**

An investigation of karst features was conducted for the entire proposed Fullerton Pike corridor in 2013, following the guidelines established in the Karst MOU, as part of the Environmental Assessment (EA). Fourteen (14) karst features were identified during the 2013 investigation; seven (7) of which were located within the vicinity of Phase III of the project from Rockport Road to Rogers Street. The 2013 report indicated features FR-1 and FR-4, located near the intersection of Fullerton Pike and Rockport Road, would be impacted as a result of the proposed project. Sinkhole FR-4 was recommended for

closure using either an aggregate or concrete cap. No impacts were identified for Site 1 (located northeast of the intersection of West Gordon Pike and South Wickens Street) or Site 2 (located southwest of the intersection of West Gordon Pike and South Rogers Street).

### **Re-Evaluation of Proposed Phase III Project Area**

As part of the re-evaluation for Phase III, a review of available literature was conducted to determine if karst features had been previously located within the expanded right-of-way area for Phase III. A review of the previous investigation for the Fullerton Pike Corridor (American Structurepoint, 2013) and the I-69 Section 5 Karst Investigation (Ozark Underground Laboratory, 2012) did not identify any karst features in the expanded right-of-way area.

A field reconnaissance of the Phase III project area, including additional areas along Rockport Road to the north and south, Clear Creek trail to the north and south, and to the north of the entrance to Bachelor Middle School was conducted on May 14, 2019 and November 13, 2019 (See Exhibits 1 and 2). This field survey included a review of the previously investigated area as well as the additional proposed right-of-way. The 2019 field reconnaissance revealed the following:

- Previously identified features FR-1, FR-4 and sites 1 and 2 remain essentially unchanged since the previous study,
- Three (3) additional karst features (sinkholes) were identified within the proposed right-of-way area, adjacent to the proposed Clear Creek Trail connection – see Table 1 below, features S-2, S-3 and S-4).
- One additional feature was located south of the proposed Fullerton Pike roadway (noted as feature S-1 in Table 1). This feature was mapped due to the proximity to the proposed roadway and because this was an apparently new feature formed since the previous investigation
- No caves or springs were identified within the Phase III project area.

**Table 1: Summary of Impacts to Karst Features and Recommended Measures for Avoidance and/or Mitigation – Proposed Fullerton Pike Phase III**

<b>Feature #</b>	<b>Feature Type</b>	<b>Sinkhole Area (acres)</b>	<b>Description</b>
S-1	Sinkhole/Soil Collapse	0.0035	S-1 is a 14' diameter and 6' deep round sinkhole/soil collapse approximately 500' south of the environmental limits. Soil and vegetation collapsed in bottom, no bedrock around rim.
S-2	Sinkhole	0.00251	S-2 is a 4' by 3' depression located just east of a walking path.
S-3	Sinkhole	0.00121	S-3 is a large depression 20' long by 10' wide located east of a walking path.
S-4	Sinkhole	0.00436	S-4 is a depression 4' long by 3' wide with noticeable slumping through the feature.

## **Discussion**

The 2013 Karst Investigation indicated feature FR-4, located near the intersection of Fullerton Pike and Rockport Road, would be impacted during construction of Phase III and require closure via an aggregate or concrete cap. Further evaluation of the proposed Phase III design indicates feature FR-4 will now be avoided. Feature FR-4 is located outside of the proposed construction limits and will not require specific treatment to close the feature (Exhibit 2A). Potential impacts to feature FR-1 and Sites 1 and 2 are consistent with the findings of the 2013 Karst feature investigation (Exhibits 2A and 2C). Implementation of appropriate erosion and sediment controls is recommended to minimize impacts to all features during construction. Roadway runoff, on proposed Fullerton Pike and Rockport Road will be directed to an enclosed drainage system; therefore, no roadway runoff is anticipated to be directed to these sinkholes.

Three additional karst features were identified during the 2019 field reconnaissance (sinkholes S-2, S-3 and S-4). All three newly identified features are located within the proposed right-of way, adjacent to Clear Creek Trail and the proposed trail connection from Fullerton Pike. Based on the preliminary design, the proposed project will avoid these three features, as they are located outside of the proposed construction limits (Exhibit 2B). Implementation of appropriate erosion and sediment controls is recommended to minimize impacts on these features during construction. Stormwater runoff from Fullerton Pike and the proposed trail connection will be routed to existing swales adjacent to Clear Creek Trail with discharged to the unnamed tributary to Clear Creek. Runoff is not anticipated to be routed to the identified sinkholes or their drainage areas; therefore, long-term impacts from the proposed roadway are not anticipated.

## **Recommendations**

To minimize impacts to karst resources within project area of Fullerton Pike Phase III, the following actions are recommended:

1. Utilize erosion and sediment control measures, including temporary earthen berms and silt fencing to control sediment from construction zones entering sinkholes or springs;
2. Re-vegetate bare and disturbed areas within sinkhole drainage areas as soon as practical following construction with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrubs and hardwood tree species;
3. Where possible, maintain existing vegetation surrounding features throughout construction, including a minimum 10-foot buffer measured from the rim, or highest closed contour, surrounding sinkholes;
4. Install fencing around sinkholes and surrounding buffer areas and springs for the duration of construction
5. Install road signs indicating a low salt and no spray strategy for the Phase III area
6. Material storage and staging areas, as well as equipment storage, maintenance and re-fueling areas should not be located within the drainage area of any karst feature.

## **References**

American Structurepoint, Inc., August 13, 2013, Karst Features Evaluation Fullerton Pike Corridor, Prepared for: Monroe County Highway Department.

Gray, H.H., 2000, Physiographic Divisions of Indiana: Indiana Geological Survey Special Report 61, Indiana University, Bloomington, Indiana, 15p.

Indiana Department of Transportation (INDOT), 2017, Karst Geological Resources and INDOT Construction, Ecology and Waterway Permitting Office, Environmental Services Division.  
<https://www.in.gov/indot/files/Karst%20Geological%20Resources%20and%20INDOT%20Construction.pdf>

Ozark Underground Laboratory, Inc., October 2012, I-69 Evansville to Indianapolis Tier 2 Studies, Karst Feature and Groundwater Flow Investigation Report, Section 5, SR37 south of Bloomington to SR 39, Prepared for: Federal Highway Administration and INDOT.

**Attachments:**

Exhibit 1: 2019 Karst Survey Feature Location Map

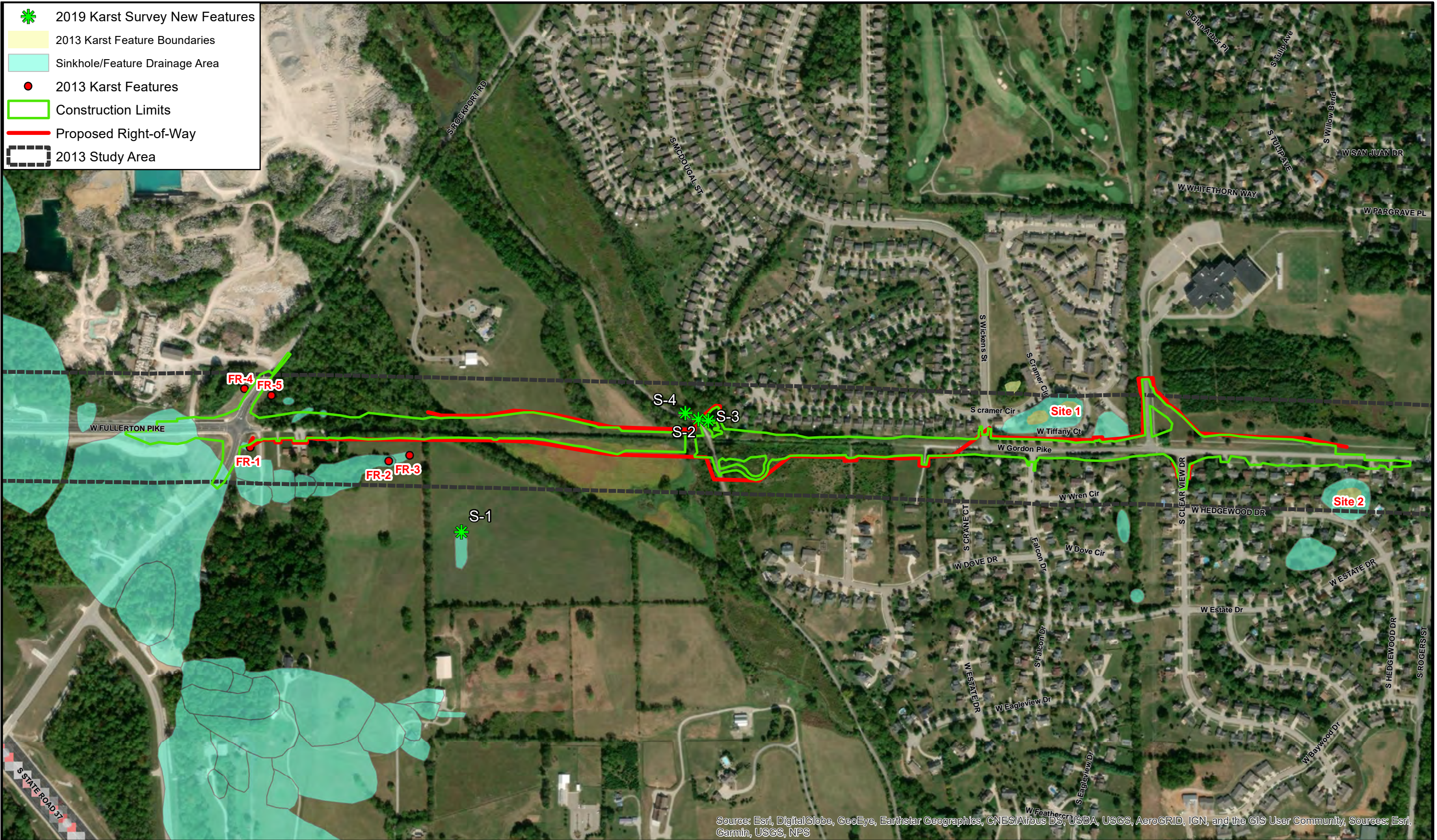
Exhibits 2A-2C: Detailed Karst Survey Feature Location Maps

Exhibit 3: 2019 Karst Survey Photo Location Map

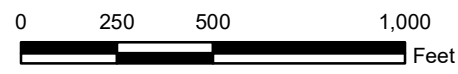
2019 Karst Investigation Photo Log



P:\IN2008\0807\Drawings\Environmental\ArcView\Exhibits\Karst\Karst Report\IN20080807 EV\2013-07-15 Map Karst 2.bwh



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, Garmin, USGS, NPS



### Exhibit 1 - Feature Locations

Monroe County Highway Department  
501 North Morton Street, Suite 216  
Bloomington, IN 47404


### Fullerton Pike Phase III - Corridor Improvement, Des. No. 1802977

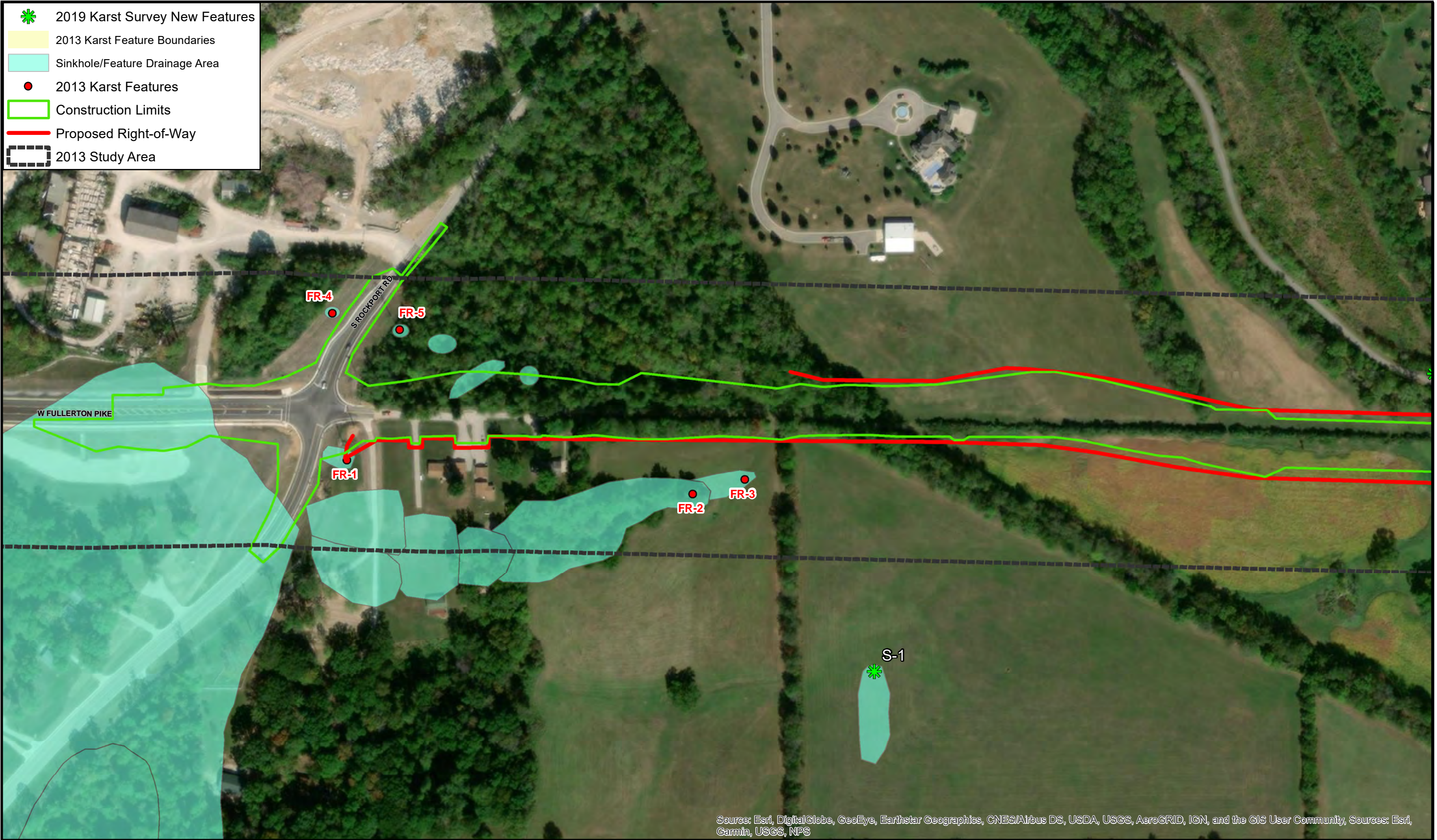
Location: Bloomington  
Township: Perry  
County: Monroe  
State: Indiana

Date: 12/29/2020



P:\IN2008\0807\Drawings\Environmental\ArcView\Exhibits\Karst\Karst Report\IN20080807\EV\2013-07-15 Map Karst 2.bwh

-  2019 Karst Survey New Features
-  2013 Karst Feature Boundaries
-  Sinkhole/Feature Drainage Area
-  2013 Karst Features
-  Construction Limits
-  Proposed Right-of-Way
-  2013 Study Area



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, Garmin, USGS, NPS

0 100 200 400 Feet



Exhibit 2a - Feature Locations

Monroe County Highway Department  
501 North Morton Street, Suite 216  
Bloomington, IN 47404

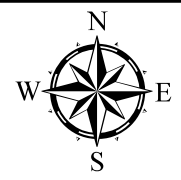
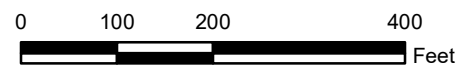
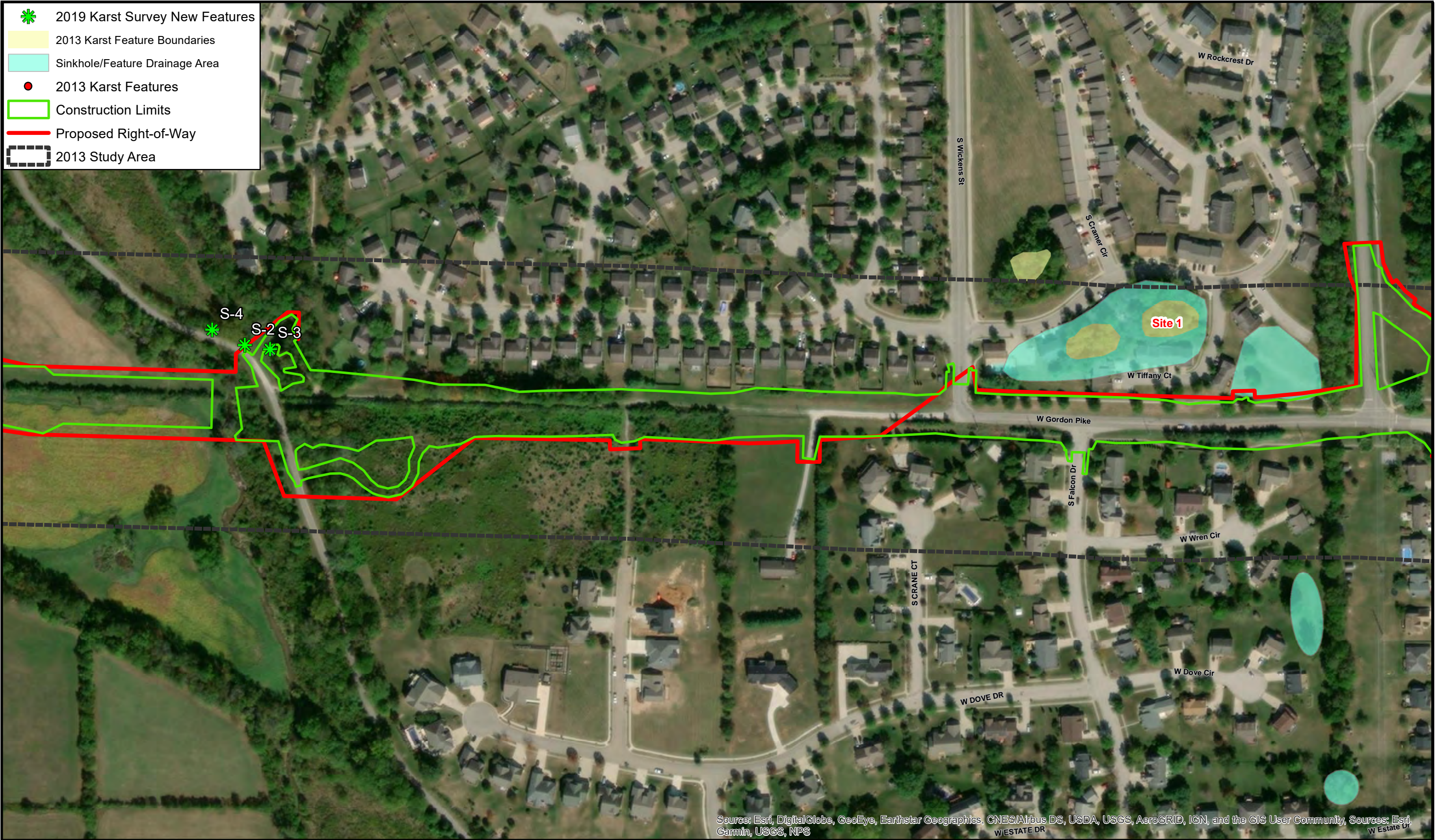
Fullerton Pike Phase III - Corridor Improvement, Des. No. 1802977

Location: Bloomington  
Township: Perry  
County: Monroe  
State: Indiana

Date: 12/29/2020



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### Exhibit 2b - Feature Locations

Monroe County Highway Department  
501 North Morton Street, Suite 216  
Bloomington, IN 47404

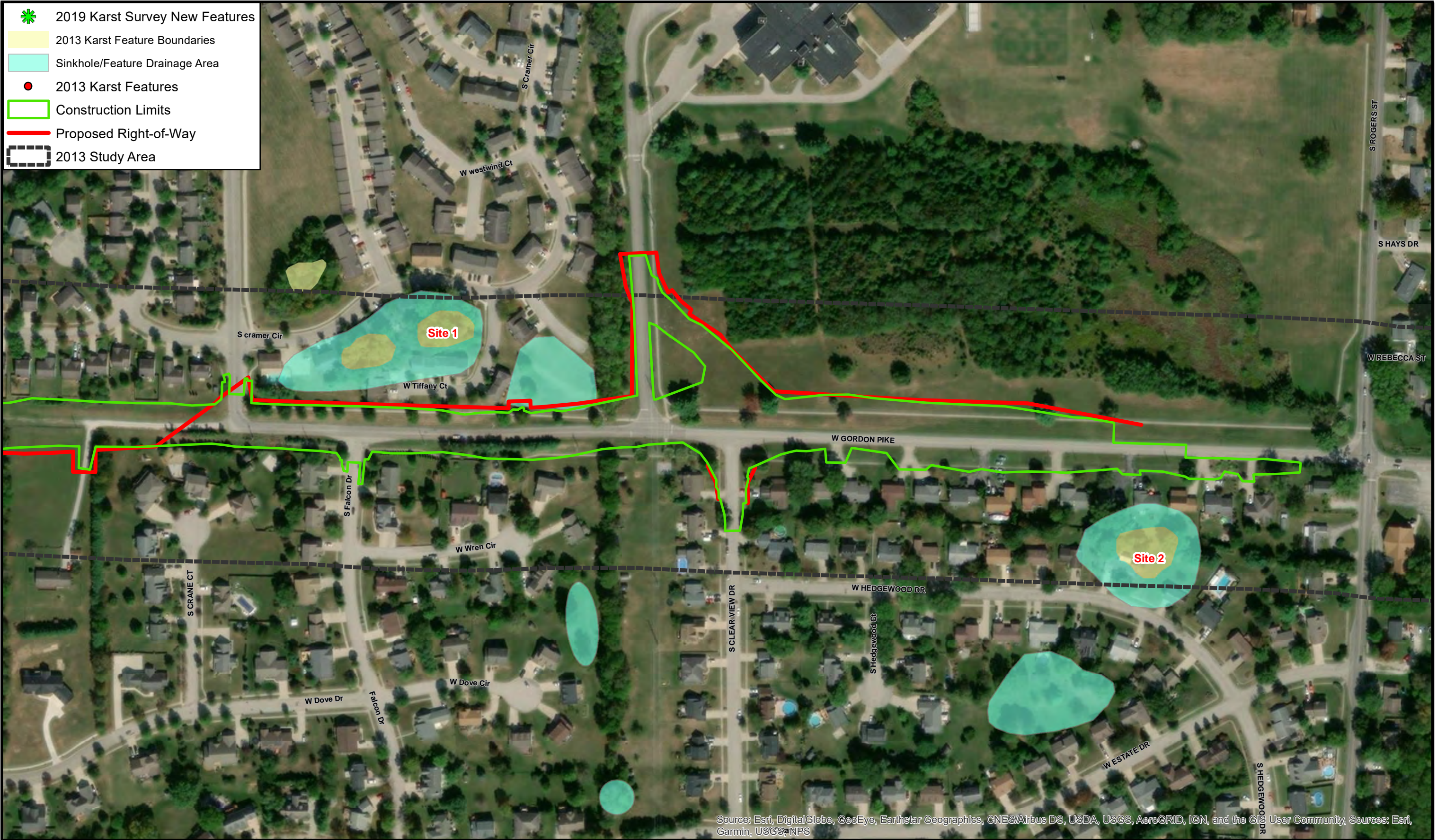
### Fullerton Pike Phase III - Corridor Improvement, Des. No. 1802977

Location: Bloomington  
Township: Perry  
County: Monroe  
State: Indiana

Date: 12/29/2020



P:\IN2008\0807\Drawings\Environmental\ArcView\Exhibits\Karst\Report\IN20080807 EV\2013-07-15 Map Karst 2.bwh



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, Garmin, USGS, NPS

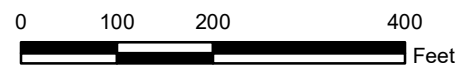


Exhibit 2c - Feature Locations

Monroe County Highway Department  
501 North Morton Street, Suite 216  
Bloomington, IN 47404

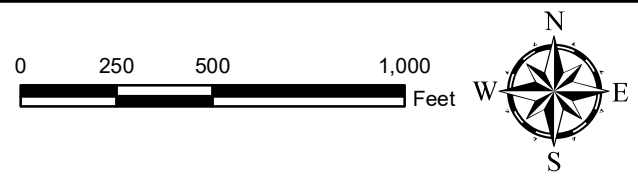
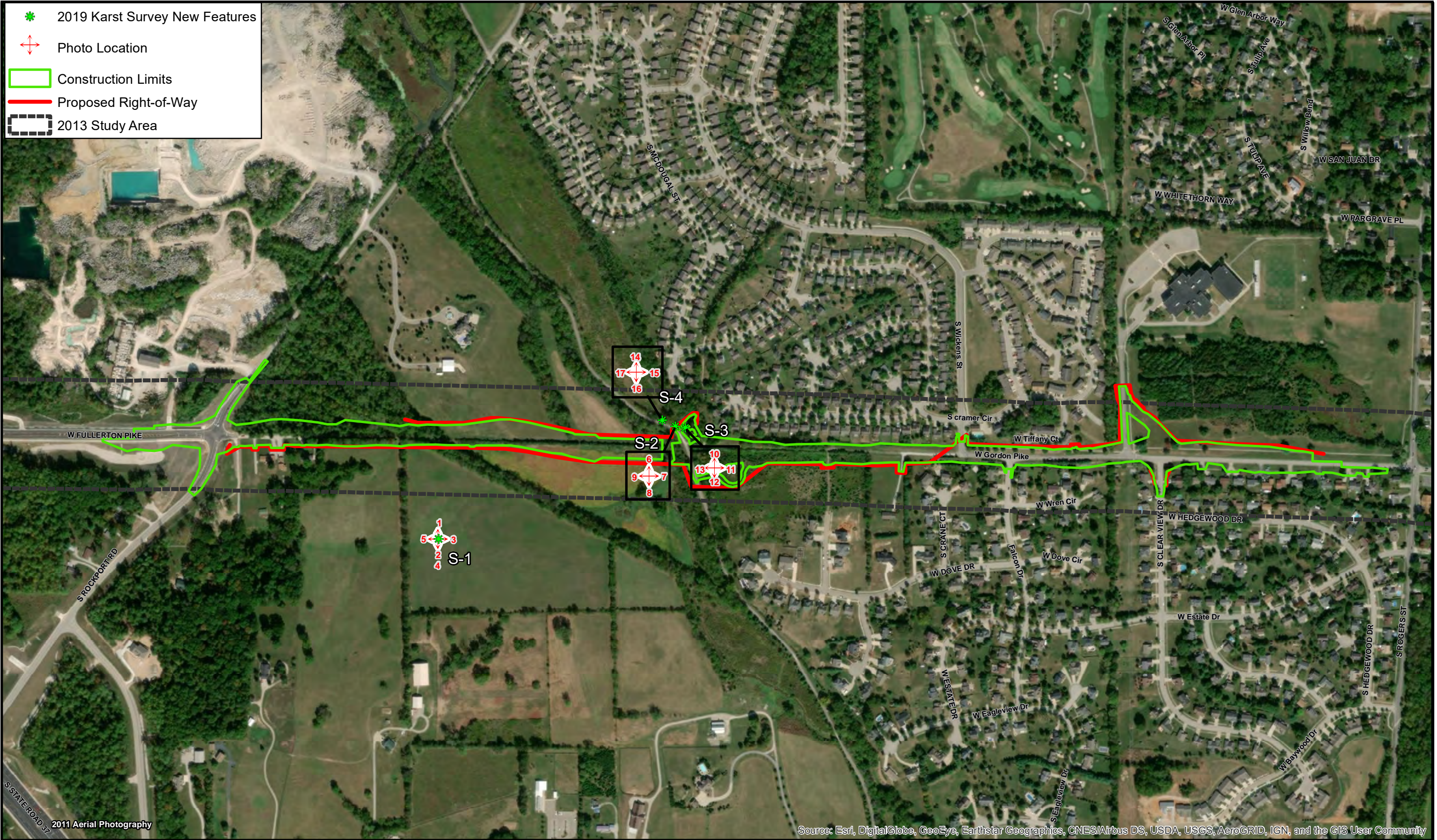
Fullerton Pike Phase III - Corridor Improvement, Des. No. 1802977

Location: Bloomington  
Township: Perry  
County: Monroe  
State: Indiana

Date: 12/29/2020



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**Exhibit 3: Photo Location Map**

Monroe County Highway Department  
501 North Morton Street, Suite 216  
Bloomington, IN 47404

**Fullerton Pike Phase III - Corridor Improvement, Des. No. 1802977**

Location: Bloomington  
Township: Perry  
County: Monroe  
State: Indiana

Date: 12/29/2020



**Fullerton Pike Karst Re-Survey**  
**Fullerton Pike**  
**Bloomington, Monroe County, Indiana**  
**May 14, 2019 and November 13, 2019**



Photo 1: Looking at S-1 sinkhole with recent soil collapse.



Photo 2: Looking north at S-1.



Photo 3: Looking east from S-1.



Photo 4: Looking south from S-1.



Photo 5: Looking west from S-1.



Photo 6: Looking north from the middle section of the project area along Clear Creek Trail at S-2.



**Fullerton Pike Karst Re-Survey**  
**Fullerton Pike**  
**Bloomington, Monroe County, Indiana**  
**May 15, 2019**



Photo 7: Looking east from the middle section of the project area along Clear Creek Trail at S-2.



Photo 8: Looking south from the middle section of the project area along Clear Creek Trail at S-2.



Photo 9: Looking west from the middle section of the project area along Clear Creek Trail at S-2.



Photo 10: Looking north from the middle of the project area south of S-2 at S-3.



Photo 11: Looking east from the middle of the project area south of S-2 at S-3.



Photo 12: Looking south from the middle of the project area south of S-2 at S-3.



**Fullerton Pike Karst Re-Survey**  
**Fullerton Pike**  
**Bloomington, Monroe County, Indiana**  
**May 15, 2019**



Photo 13: Looking west from the middle of the project area south of S-2 at S-3.



Photo 14: Looking north from the middle section of the project area north of S-2 at S-4.



Photo 15: Looking east from the middle section of the project area north of S-2 at S-4.



Photo 16: Looking south from the middle section of the project area north of S-2 at S-4.



Photo 17: Looking west from the middle section of the project area north of S-2 at S-4.